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TRANSACTIONS

OF THE

ESSEX AGRICULTURAL SOCIETY,

IN MASSACHUSETTS,

FOR THE YEAR

1866,

WITH THE

ANNUAL ADDRESS

BY

HON. OTIS P. LORD.

PUBLISHED BY ORDER OF THE SOCIETY.

SOUTH DANVERS:
PRINTED BY CHARLES D. HOWARD, SUTTON BUILDING.
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ADDRESS.

Mr. President and Gentlemen of the Essex County Agricultural Society: —

There were considerations, which made the invitation of the representatives of your Society to address you on this occasion, peculiarly pleasant. I ought, perhaps, to have declined it. It is not possible, that it could have been in the mind of any one, that I should speak upon your chosen pursuit. Education, habits of life, course of study and general pursuits, each alike forbids me to attempt such task, and is conclusive, also, that you ask some other theme.

I could, indeed, congratulate you, generally, upon the success of the season; upon the fruits, that have rewarded your toils; upon the richness of the earlier and the abundant promise of the later harvests; or, I might bring in review the marvellous changes which the present generation has witnessed in the culture of the ground; the introduction, use and improvement of new implements and machinery; the almost total uprooting of all received notions of practical husbandry; the wonderful increase in variety, quality and value of crops; the attention to stock and its relation to the farm, with an almost infinity of other things, interesting to

you, but in all of which you could entertain and instruct me; and it cannot be, that of such things you would have me speak.

It were easy, also, to address you upon the dignity of labor; upon the independence, that goes with tilling the soil; upon agriculture, as the primal source of accumulation; as the foundation of the social state, upon which all other arts and trades and professions rest; but I am quite sure, that you have not invited me here to flatter you or to eulogize your vocation, and, certainly, I shall not so far forget myself, nor so fail in respect for you, as to make this platform a stump, from which to try to tickle you or to aggrandize myself.

I might—indeed I should be wholly neglectful of duty did I not—congratulate you upon the changed condition of public affairs. Through several succeeding years your Society held its annual festival in tears—in sorrow, though in hope—over a torn, distracted, belligerent country. This—the fairest fabric of human government—was shaken—the last hope of the friends of civil liberty all over the world—was imperilled. Over an extent of territory never before equalled, and on a scale of terrible grandeur never approached—war—civil—fraternal—war was raging with an intensity impossible before to conceive; the whole land red with the blood of brothers; the heavens all lurid with the smoke and the flame rising from a thousand battle fields; the stoutest hearts were quailing and at times the hopes of men seemed to be going out. But how changed! Instead, since your last annual meeting—nay even since I so recently accepted your invitation—the proper and rightful authority has proclaimed from his high place "that peace, order, tranquility and civil authority now exist in and throughout the whole of the United States of America." How infinite the contrast! And, now, after this terrible convulsion, and even before the tears have been dried, which were shed over so much of devotion and consecration of health and life to a country worthy of it all, we have a partial relief in some matters of gratulation, which

it will be neither unfit, nor distasteful to the proprieties of the hour, for a moment to bring to mind. It is certainly a matter of congratulation, that upon the re-establishment of civil government, when the nation takes its place again unbroken among the first powers of the world, it comes forth purified by the fires through which it has passed of that plague spot, which, from the first, has been our mortification and our fear; that it presents to the world the grand spectacle of a population of more than 30,000,000 of souls, each one of whom is before the law the exact equal of each other one; nay, further, that we stand in christendom with a fundamental and constitutional declaration of that great law, which Lord Brougham, many years ago, declared to be above all the enactments of human codes, written by the finger of God upon men's hearts, that man cannot hold property in man; while proud and boastful England, in which human servitude long existed, and by whose agency it was planted among our people, has never yet, by legal enactment, forbidden slavery, except in some of her far-off possessions. Within the limits of the British isle, there has never been a law abolishing or prohibiting its existence. It ceased to be economical—and it ceased to exist.

Nor can we hesitate to see, with emotions of the highest interest and satisfaction, that the years of strife and war have developed the fact, that the people of the United States have determined that there is a government, which must be preserved; that the great interests of civilization demand, that we shall continue one people; that this community of States is not a mere aggregation of atoms to be separated and disintegrated at the will of aspiring and discontented men; but that within its true sphere, the government of the country shall remain absolute and permanent. It is not well to try to weigh life in the balance with political advantages and political results; it is not, therefore, well to make comparisons of the value of any result with the cost by which it has been purchased; it is enough, if we fully realize and

adequately appreciate the great good, which, out of this great evil, has been assured to us. Our study should rather be to secure and render perpetual what, in the Providence of God, so great a sacrifice has opened to us.

It is also no little satisfaction to know, that those, what attacked most violently and desperately the integrity of the Republic, made no attempt to establish a better and no claim that a better was attainable by them. On the other hand, they were compelled, practically, to confess that they could lay no better foundations than were laid, by copying with almost precise exactness the very Constitution, which they were attempting to avoid; and while they based their objection to the integrity of the nation, not upon the government itself, but upon the administration of it, they were forced to the position — to make a pretence of justification before a civilized and Christian world — that it was not so much against the administration, which they had experienced, as against that which they feared might, in the future, be resorted to — that they took up arms. Such a cause, except by the grossest dereliction of duty on the part of those having control of public affairs, could not succeed; and the people of the country determined that with the blessing of God it should not succeed. It failed. The government stands; and it shall stand forever. There may have been — undoubtedly were — errors of opinion and errors of conduct, but the one great pervading, all-absorbing, universal determination of the people, with an identity like the pulsations of one great heart, was for the integrity of the nation, its government and its institutions. It was indeed at a fearful cost; that cost should enhance our appreciation of the value of the result.

It has seemed to me that, now, just as we are emerging from this terrible conflict, there can be no fitter subject for an hour's consideration than the nature, object and purposes of good government, with especial reference to our own and its institutions.

What is government? Till very recently, we have scarcely

had occasion to know or even to think of government, or its nature. I ask your indulgence for a moment, while I attempt to turn your thoughts to the condition of affairs but six years ago. Our country, then, was a magnificent spectacle to the world of a peaceful, prosperous government; but, a government, the existence of which as a physical power, we had never realized even in contemplation. Its hand had never borne heavily upon any man. It had afforded protection and security of person and of property against individual wrong and against aggregated assault. It had given to every citizen the fullness of enjoyment of all that is dear to him, not life only, not liberty only, but individual freedom, freedom of conscience, freedom of pursuit without molestation, as pricelessly as a good Providence has given his air. It had done all this and more. Did we then appreciate it? Did we give our mind for a moment to the question, What is this government? We were accustomed to contemplate and to speak of our rapid and gigantic development. Our population, during our existence, from three or four millions, had multiplied to thirty millions and more. Our commerce had been extended till our sails were in every water; our enterprise had developed itself beyond the dreams of imagination; science had begun to compete and was keeping pace with the advance of the most learned of the age; in the arts we were rivalling all other peoples; in the development of physical resources, (grand and gigantic to sublimity) without precedent and without parallel; in literature, more than respectable among those of the highest culture; in civil and religious advancement and liberty our course had been rapid, safe, and with full assurance of permanence; man, as man, had been elevated; labor was honorable and of sure reward; certain success crowned honest effort; public and private charities were administered with almost prodigal liberality and with results of good which seemed to justify profusion; distance and space so far annihilated, that it was scarcely exaggeration to say that families and friends, separated by thousands of miles, could

hourly converse together; our territory, from a comparatively narrow belt along the Atlantic, augmented till its western shore bounded the great quiet sea; and yet more compact, of more easy access and intercommunication than the old thirteen of the revolution; our political privileges extended till they had almost outrun the conception of the socialist; and this under a government controlled and administered silently — noiselessly — as the great system of the universe. We traversed the country hundreds and thousands of miles in our railway cars, and equal thousands upon our steamboats, or by whatever other agency of locomotion we selected, and the sight of a bayonet or a soldier was so rare that we stopped and gazed upon the spectacle and wondered the object of its existence. The simple star upon the breast of a hundred or two of otherwise undistinguished citizens in our large cities, gave ample assurance of safety and protection by night and by day, to every individual. With all this there was no burden of taxation; the very term "rates" almost, or quite obsolete; our system of administration of public affairs differing widely from what the world had ever before seen; with a national government designed to have and having simply sufficient jurisdiction "to establish justice, insure domestic tranquility, provide for the common defence, promote the general welfare and secure the blessings of liberty to ourselves and our posterity;" with State governments, each adapted to its peculiar locality and its peculiar institutions, regulating the police and protecting the citizen, in some, especially in our own, developing all the resources, mental, moral and physical, but generally so administering affairs through the agency of those primal and most perfect democracies (the town meetings of Massachusetts) that wisdom and economy were combined, and the citizen saw that every dollar, which he was called upon to devote to the public service, was but an investment made by him, the income of which, he personally realized in the education of the children and in the protection, security and comfort of the people. There was no idea of

odium attached to taxation; the citizen felt it to be rather a voluntary and self-imposed contribution, the benefits of which he should personally realize. Such, in part, hastily and imperfectly drawn, were the results of good government. Was it strange or not that, under such circumstances, men should not make the subject of government a study? The true theory of government was not well expressed by Pope when he said:

> For forms of government let fools contest,
> Whate'er is best administered is best.

Good administration is essential to any form of government, and, indeed, will make any system of government tolerable. More accurate, indeed, was the view of a nearly contemporary British Jurist, who said, "the true liberty of the subject consists, not so much, in the gracious behavior as in the limited power of the sovereign." I should rather say that government is best to the existence of which the subject is most unconscious. It has, however, this penalty. Being unconscious of it, the subject becomes unmindful that there is such a power as government, and, naturally, if not necessarily, becomes neglectful of its study; and without study and careful contemplation, erroneous notions upon the subject of government, equally as upon other subjects, spring up.

If by any process the question could to-day be submitted to each voter, even of Massachusetts, What is the nature and purpose of government? and an independent answer could be had from each, while, probably, no single answer would be pronounced wholly and absolutely wrong, we should assuredly find that there is no identity and very little similarity of opinion on the subject. It is almost impossible to give any definition of government and its purposes, which shall not have something of truth in it. Upon the minds of most people, the general history of public affairs and the common use

of language have impressed the idea that the word government imports, of itself, a governing and a governed class. There is, undoubtedly, a sense in which this is true, but in spirit and in essence it is false. So also there is prevalent a vague idea that the object and purpose of government is to compel, in the subjects of it, compliance with its will. Like the former, there may be a sense in which this is true, but like the former, in its spirit and essence it is false and pernicious.

There must be government. We may say it has its origin in necessity; or we may use another phrase and say, government is ordained of God. We mean the same thing, whichever expression we may use; for in either case we mean, only, that in the Providence of God, man was made to associate with man; and men cannot associate in masses without some organization. That organization, in the mode which shall best advance the interests of man, is the best government. To ascertain what that best government is requires us to look at the purpose and end of human life. The assembly's catechism, which very many of us believe, defines the chief end of man to be, to glorify God and enjoy him forever. Whether we accept this definition as the true one or reject it, we certainly all agree in this, that man's personal relation with the Divine Creator constitutes his highest interest in life. It is a personal—an individual relation—and out of it grow the paramount obligations of life. To secure the individuality of that relation is the highest and most important duty of each person, and with this there is—there should be—no human power to interfere. It is necessary, therefore, that government shall be so constituted as not to interfere with the fullest development of such individuality; and, consequently, it follows, that there shall be no interference with individual conduct, but that every person shall be allowed to act as he himself deems proper, without control or influence from any source. Inasmuch, however, as absolute freedom from all control in every individual and

the absolute right in each individual to do exactly according to his pleasure would inevitably lead to conflict, there becomes, of necessity, one qualification; and upon that one qualification is based the whole justification of civil government; that qualification is, that in the exercise of one's own right, he shall not violate the rights of another; that each man shall so use his own as not to abuse another's. The best government, therefore, is that which allows the largest latitude of thought, opinion, conscience and conduct in the subject of it; a government, which neither coerces nor restrains individual action; which is unseen; unfelt in its operations; whose legitimate authority is strictly limited to two specific subjects, to wit: its own self-protection, and the restraint of an individual from doing injury to the rights of another. To him who will look carefully into the true principles of a government, which is to be the bulwark and defence of civil and religious liberty, these two duties will appear to be the paramount — indeed — the sole ones. It is true, that we have a mass of laws and an aggregation of legal decisions, more or less obligatory upon the citizen, which fill volumes, that a lifetime does not suffice to read; but, if in all that multifariousness of laws, there is one single rule which goes beyond the limit I have named, so far there is usurpation beyond the true bounds of good government. Under our own law, an examination of the entire Criminal Code will show, that there is no one offence, which the law-maker did not consider either an act like treason, which attempts the subversion of the government, or some act which tends to undermine the government, or some wrong to an individual. The Civil Code merely decides between the individual claimants to the same right. The true standard, therefore, by which to test a government, or to test legislation, is this: — Is the measure proposed necessary either for the protection of the government itself, or for the enjoyment of each individual of his right to do exactly as he pleases, with this only qualification, that he shall not, in so

doing, prevent another from the exercise of the same freedom?

Without any doubt, the government under which we have lived, local and national, has come nearer to the model of the best government than any other, for the reason that it has claimed for itself less power than any other, and has, substantially, limited itself to its two legitimate purposes. Till the establishment of limited governments, restricted by written constitutions, there was always implied in the governing power omnipotence in reference to the subjects of it. To-day, though practically false, the Parliament of Great Britain, by her statesmen and jurists, is spoken of as omnipotent, and in theory it is so; because it is based upon the long-tolerated dogma that in the Providence of God there are two classes—a class to govern and a class to be under subjection to government. If it were within the limits of this discourse it would be interesting and instructive to review in detail the principles upon which government is founded and justified, with its limitations and restrictions, as they are carefully and concisely enunciated in that immortal prefix to the Constitution of Massachusetts, popularly called the Bill of Rights. This bill of rights, which in many respects is a mere transcript of Magna Charta, had, an hundred years ago, a meaning understood by every body. To-day, these are comparatively free who appreciate it, and because of the reason before referred to, that it has performed its part in the accomplishment of its work, so successfully, and so noiselessly, that we had become unconscious of the presence of a power, which was operating with such potency and beneficence. The people of Massachusetts long ago outgrew the fiction, that there was a governed and a governing power. Always, from the very first, they had good government, the evils of which were almost wholly theoretic. During their colonial existence, there were at work causes, of which they themselves were seemingly unconscious, which must destroy the whole theoretic structure of government. Without ap-

parently understanding exactly why, or by what means, it was brought about, when their circumstances called upon them to remodel and reorganize society upon what was deemed a more popular basis, they saw and proclaimed the true purposes, end and aim of government; and they first promulgated the great truth, which I have tried to develop, that such purpose and end is simply and only to preserve itself and protect the individual. It was for this that the Bill of Rights was ordained, and was designed to be before and above all constitutions and above all human authority — or to speak with more careful accuracy, it was to declare that there were things which were not the subjects of human government. It is entitled not a "Bill of Rights," as it is now almost universally designated, but "A Declaration of the Rights of the Inhabitants of the Commonwealth of Massachusetts;" by which was meant, the rights of each individual, with which no human government had any authority or rightful power to interfere, rights — born to the individual; rights, which he could not surrender; rights, which it is mere usurpation in any government, whatever that government may be, to attempt to interfere with. We can better appreciate the importance of this declaration of rights, when we contrast it with the interpretation which, even in England, had been put upon the same declaration. But just previously to the adoption of the Constitution of Massachusetts, a celebrated writer, the "enchanting harmony" of whose style, together with the elegance and comprehensiveness of his commentaries, has made his work a text book to this day, thus comments upon the great charter. "Thus much for the declaration of our rights and liberties. The rights themselves, thus defined by these several statutes, consist in a number of private immunities; which will appear from what has been premised, to be, indeed, no other than either that *residuum* of natural liberty, which is not required by the laws of society to be sacrificed to public convenience; or else those civil privileges, which

society hath engaged to provide, in lieu of those natural liberties so given up by individuals."

From the world-wide difference of construction between the founders of our State and the illustrious commentator, it will be perceived that it is not from Magna Charta alone, that we derive our institutions. We must look elsewhere; for just as are the principles enunciated in the great charter and inestimable as the rights secured by it, they are all consistent with a theory of government, which our fathers rejected and which we shall be slow to adopt. Before, however, looking for the causes which led to such different constructions of the rights of persons, and to such different results in relation to the theory of government, I beg to call attention to a very prevalent, and, it may become, a very dangerous error. It has been supposed that what would be usurpation in an individual, if he were despot, autocrat, emperor, or monarch of any description, might be a legitimate exercise of authority if done under a popular government and with the sanction of a majority of the people; or in other words, that it is the duty of a minority in a popular government always to acquiesce in and submit to, as right, whatever shall be so deemed by the majority. The nature of the government makes no difference in the true power of the government. Whatever is within the true sphere of government may be done, whether the nature of the government be what is called despotic or what is called popular; and whatever is not within its legitimate province can be done by neither. It was precisely to define what does belong to government, and what does not, that written constitutions were devised. Those constitutions, the product of our institutions, organize society and define the province to which government is limited. So well had been considered this subject that I have endeavored to illustrate and enforce—the great truth, that government has but two rightful purposes to accomplish—the protection of itself and the security to each person of the widest freedom of individual, independent opinion and conduct—that it was taken

as a postulate—requiring no proof—to be stated, only by way of formal declaration, as a preamble to the declaration of rights, which, although a part of, is precedent to, the Constitution of the Commonwealth. That preamble, possibly forgotten by some who hear me, commences thus:

"The end of the institution, maintenance, and administration of government is to secure the existence of the body politic, to protect it and to furnish the individuals who compose it with the power of enjoying in safety and tranquility their natural rights and the blessings of life." Thus, in a word, are more succinctly and more tersely stated, than perhaps anywhere else, the exact purposes, objects and ends of civil government. Such a government, our fathers designed to make, and such a government substantially has been enjoyed by the people of the commonwealth for nearly a century.

How came it to be created? How is it to be preserved? These are important enquiries, to which we have been accustomed to give too little thought. To say that it is the product of popular institutions and is to be sustained by sustaining popular institutions, is merely to use other language to convey the idea that it exists and is to be preserved as heretofore. But what are popular institutions? No phrase is more frequently upon the lips of all classes of people, and I suspect, that no phrase is so used with less appreciation of its meaning. Ask an enthusiastic declaimer upon the virtues of popular institutions what he means by the expression, and when he shall have collected himself, he will not be unlikely to say, that he means the right of the people to choose officers and to hold office; to vote and to be voted for; or perhaps he would say that he meant by it only popular government. Neither of these answers, however, conveys any proper idea of that condition of things that is meant by the language, popular institutions. If popular government means only a government that is satisfactory to and is sustained by a majority of the people, then it can scarcely be

said to be peculiar to any people or nation ; for it is undoubtedly true, that every government, which exists, is substantially such a government as a majority of the subjects of it desire, or to express it more accurately, such as the majority of the subjects of it prefer to acquiesce in, rather than attempt to change.

Names, however, are not very important in this discussion. Whatever we may call our institutions, we mean that system of measures, which during the progress of centuries have been inaugurated, established and improved, till individual liberty of conscience, opinion and action have been secured to every person. The limits of this discourse will not allow a full enumeration of all the measures. Magna Charta and the habeas corpus have undoubtedly a most important place among them. The foundation and distribution of the different powers of government, so that the branch, which makes the laws, shall neither construe nor execute them, and the branch, which executes, shall neither make nor construe, and the branch, which construes, shall neither make nor execute, thereby making a government of laws and not of men, are also entitled to a high place in such an enumeration. Trial by jury also, though from obvious causes of less value to us, than to those from whom we derived it, is entitled to a conspicuous place ; but far above them all and far transcending in importance any and perhaps all other causes combined in creating, preserving and transmitting popular institutions, is the proprietorship of land. Next to that, is the town meeting. The ownership of land has always been a badge of sovereignty. By the theory of the British government, all sovereignty is in the King and by the same theory all the lands in the kingdom are held by the subject, either mediately or immediately, from the King, who is the absolute owner, while the owner of the fee is entitled to the use.

That gigantic system of institutions, or regulations, or government, or whatever it may be called which, under the name

of Feudal System, pervaded Europe during an origin, growth and decay of a thousand years, and traces of which linger in the language of the title deeds of every one of you, was based also upon the same idea that proprietorship of land involved sovereignty — political sovereignty. It would be tedious to attempt to enumerate the various and multiplied forms of tenure, which prevailed under that great and complicated system, every one of which required fealty in some form and under some name to the owner by the possessor. The estate of "freehold" was in its first signification simply the possession of the soil by a Free-man; and the word fee, which to all of us imports the highest possible estate, is of the same feudal origin, and implies that the estate is held not in the right of its possessor, but under another, to whom some allegiance or some service is due. Men held their lands upon condition that they acknowledged fealty and rendered service to the owner, and he who was possessed of land to which no such condition was annexed, was himself a sovereign over a larger or smaller domain, as his possessions were more or less extended. When some six hundred and fifty years ago the signature of King John was obtained to Magna Charta on that little strip of meadow upon the banks of the Thames, now famous through the civilized world as Runnymede, it was substantially the triumph of landed proprietorship. It was the Liber Homo — the Freeman — the possessor of lands, who derived the substantial benefits from that instrument. In terms, it was broad enough to secure justice in some respects to all — but like the common law, it was subsequently made applicable rather by its elasticity, than because it was originally made to cover the condition of others, than the barons who secured it. The ladies, however, will not pardon me if, before taking leave of Magna Charta, I do not say, that by that great instrument the right of dower became incorporated into the constitution of England as a part of its fundamental law. But although the proprietorship of land is thus influential and is in the nature of sovereignty, it, by no means,

of itself secures good government; we are therefore led to another and further enquiry as to the nature of that proprietorship, which has heretofore operated thus beneficially; and it is not necessary to stop and reason with the enthusiastic visionary, who, now and then, has denied the right of the individual to the ownership of land; who has told us, that God first created the Earth and then made man to its inheritance and sent him forth to till the ground for his subsistence, and that each individual, under that Divine ordination, had the right to enter upon and cultivate the earth, and that he, who shall undertake to exercise exclusive ownership, must show his title deed from the Almighty. If we should assume that such speculations as these cannot be logically answered, it would not necessarily follow that they are therefore sound. In the great scheme of creation and human existence, the profoundest student has made but little advance. There are problems in life above and beyond all logic and all reason. These are not to be solved by the rules of metaphysical didactics, for they are of the mysteries of the Divine economy. Call it instinct, call it reason, call it faith, we may be assured of the sound basis of that, which the general judgment of civilized men, in all times and under all circumstances, has taken to be true. We must accept as truth what the natural and universal judgment of man has assumed to be true; if we cannot demonstrate the truth, still, it were only folly and presumption to deny or to doubt. Whether this is the true vindication of the lawful proprietorship of land, it will be neither interesting nor profitable here to enquire. Suffice it, that such proprietorship has existed in some form, — whenever civil government has existed — always with marked relations to that government. Our enquiry, now, is limited to the peculiar relationship of landed proprietorship to our government. If it were required of me to give in a word the origin of the popular institutions which have made this government so near the model government of Christendom — I should not

hesitate to say, The small farms of New England. It is the subdivision of the soil and the facility of acquiring land which has made each man in his nature and bearing a sovereign. The observation of the most careless cannot fail to have shown him, that the first acre, which a young man acquires by the fruits of his own labor, stamps that man with a dignity and an importance, which are seen and felt through life; and we shall find not only better citizens but a better government in proportion as we find young men, on attaining their majorities, becoming possessed, in their own absolute right, of some portion, however small, of the soil. The laws, therefore, which favor the subdivision of lands — that bring the ownership of lands not only within the means but within the easy and certain grasp of every aspirant for it, are those which are best adapted to secure and perpetuate political sovereignty in the body of the people.

Establish to-day throughout the British empire the laws of the Commonwealth of Massachusetts, which regulate the descent and distribution of the estates of deceased persons, and those which relate to the alienation of real estate and the barring of entails, and the child lives, who shall see that proud government totter and fall. Those baronial and imperial estates, the accumulations of centuries, the pride and the grandeur of the few, the degradation of the many, would crumble and waste. It would not need a dissoluteness of the heir to open the grounds to the competition of the tenant and the peasant; and soon — very soon — those old castles would be vacated by their titled occupants and a truer and higher nobility by nature would succeed them. It would be said, literally, as was figuratively said of their system of remedial law, that their old Gothic Castles, erected in the days of chivalry, were fitted up for a modern inhabitant; that their moated ramparts and embattled towers and their trophied halls, though magnificent and venerable, were useless and neglected, but that the inferior apartments, accommodated to a new and daily use, had become cheerful and

commodious. With the loss of these vast dominions, for many of the estates are really such, the priviledged order of nobility must cease as a power in the state; for the existence of such an order, without large territorial possessions to sustain and support it, is a dream, in which the wildest schemer never indulged. That destroyed, the whole fabric of English government topples. It is not within the design of this discussion to consider what consequence, for good or for ill, would follow such an event; nor whether to England or to the world, it would be a desirable event. Nor do I mean to enter at all into that great arena of debate, which attempts to decide the question whether agriculture is, upon the whole, advanced by those princely possessions and princely experiments which are here and there found among the immense estates of some British peer, who unites with the vast power of his real and personal wealth, that higher and more noble property, the disposition to develope all the capacities of his land and to increase and improve its products. These questions have indeed a bearing upon the general truth which I desire to present, but are simply collateral and incidental, and I leave them.

But the small farms of New England needed as their adjunct in the establishment and perpetuity of popular institutions — the town meeting.

Has it ever occurred to you to think how large a proportion of all the matters of public interest are acted upon and settled at the town meeting. We have had a National and a State government, but till very recently we have hardly been called upon to contribute to their support. Indeed, we hardly knew of their existence, except as election days came round and we were called upon to recognize the claims of some friend of the people to distinction and office. The substantial affairs of life were settled in town meeting. Our taxes, imposed by the government, have been such only as were necessary to preserve the organization of the State and compensate its officers. It is only recently that either State or

National government has gone beyond that and never much beyond. The real burdens of the government have been self imposed in the town meeting. Duties have, indeed, been laid upon the towns by the government, but they have been such as the towns desired to have, rather than to have the same performed by the States. Sometimes the State has seen fit to impose a minnimum of taxation, but rarely has that minnimum been as high as the towns themselves have fixed, so that practically the amount of taxation has been left with the people of each town to determine according to their discretion. The cost of maintenance and repairs of roads — the support of schools and the education of the youth — provision for the support and comfort of the poor — these are the subjects of taxation — and these the little democracies deal with wisely and economically. Each man feels that he is an owner and a sovereign in the territory for which he is acting. Sometimes, undoubtedly, towns act without due regard to economy, to wisdom and to the rights of minorities; generally, however, so purely a practical matter of business is made the affairs of the town, so little political or other excitement of feeling enters into it that it is eminently wise, judicious and satisfactory. I will be content if the National and State Legislatures will conduct their affairs with as much practical wisdom and propriety as the least wise of all the towns of the Commonwealth. It is not difficult to understand why towns act thus judiciously. Each individual is acting in relation to his own business, which he fully comprehends and appreciates. He sees that his interest is the public interest and the public interest is his. But the town meeting would be of no account except for that universal interest which the inhabitants have by reason of the proprietorship of land. If some baron owned all the acres of a town and the inhabitants were his tenants the town meeting would be as worthless as a telescope to a blind astronomer. It is the two, that have laid the foundations and erected the structure of popular institutions; without

them, such institutions can scarcely be secure for a generation; with them they may be immortal and perpetual.

The way is open, if we will take it, for a higher, a nobler, a more glorious future.

But frankness to you and justice to myself require that before closing I shall say to you, that there are perils before us—perils of a serious and alarming nature—perils which agitation, excitement and passion will aggravate rather than dispel — perils which require all our firmness, all our prudence, all our wisdom to avert. What they are and what are the remedies, it is not for me, here and now, to say. Their discussion requires a confiding, if not a sympathetic audience.

May God in his gracious Providence be to us as to our fathers — give us wisdom according to our need.

HYMN.

BY DR. JAMES R. NICHOLS.

Adieu to angry strife, and words
  With passion all aglow;
To wars' alarms, and gory fields,
  Deep fraught with human woe.
Praise God for calmer themes, and minds
  Vexed by no caucus toil,
Praise Him for hills and peaceful vales,
  The rich and fragrant soil.

Since last we met, the sun and earth,
  Beneath the zephyr's wing,
Have nursed the tender germs, and burst
  The varnished buds of Spring.
The Summer's ardent heat hath urged
  Each seed and springing blade,
And waves of green have swelled along,
  By valley and by glade.

And Autumn, with its ripened fruits,
  Its rich and golden grain,
And treasures hid beneath the soil,
  Hath filled our stores again.
The cattle by the meadow brooks,
  The sheep upon the hills,

Unite in praise to Him, who thus
  Our cup of plenty fills.

O, feeble trust! O, trembling faith!
  How weak our fears and vain,
When lurid suns and cloudless skies,
  No promise gave of rain.
Henceforth, in Spring-time, sow the seed,
  All ill forebodings spurn,
The promise stands; we will not doubt
  The harvest's glad return.

REPORTS, &c.

The Cattle Show and Exhibition was held at Haverhill, Tuesday and Wednesday, September 25th and 26th.

FAT CATTLE.

The Committee on Fat Cattle have examined those entered, and report the following premiums:—

To Daniel G. Todd, of Rowley, first premium for his near ox, $10.

To Frank Brickett, of Haverhill, second premium for his off ox, $8.

To Stephen Little, of Bradford, third premium for his off ox, $5.

Joseph Newell, Geo. W. Davis, Matthew Poor, J. C. Gage, Committee.

STATEMENT OF DANIEL G. TODD.

I offer for premium one pair of fat oxen, five years old,

weighing about 5000 pounds. Their feed for the past year has been old pasture for five months; for seven months, one-half English, the other half Black grass and Salt hay, with four quarts of meal each per day.

BULLS.

The Committee on Bulls would respectively report :—

The number of entries was large, and the animals were, generally, of a superior quality. The variety was very noticeable — Dutch, Shorthorn, Ayrshire, Jersey, and Natives of various shapes and sizes constituting the number. Your Committee would suggest that there must be an unusual diversity of soil in any limited section of the country, which would allow so many different types and breeds to be fed to a profit. They would also suggest that this is almost the only Society in the country which now offers premiums for grade bulls.

The Committee award the following premiums :

To Charles P. Mighill, of Rowley, Jersey Bull, first premium, $8.

William A. Russell, of North Andover, Dutch Bull, first premium, $8.

John Day, Jr., of Boxford, Shorthorn Bull, second premium, $5.

C. O. Cummings, of Andover, Grade Bull, first premium, $8.

Joseph Newell, of West Newbury, Grade Bull, second premium, $5.

GEO. B. LORING, Chairman of Committee.

HEIFERS.

The Committee on Heifers having attended to their duty, report :—

There was one entry of three year old heifers; six two year olds; thirteen yearlings, and three entries of calves.

The Committee award to Jacob F. Jewett, of Georgetown, the first premium of $10, for his three year old Heifer.

To W. A. Russell, of North Andover, for his Half Dutch two year old Heifer, the first premium of $5.

To H. K. West, of Haverhill, the second premium, Harris' Insects, for his Grade Jersey.

To E. C. Mitchell, of Haverhill, first premium of $5, for his Grade Durham yearling.

To H. K. West of Haverhill, second premium, for his Grade Jersey yearling.

To E. T. Northend, of Bradford, the premium of $6, for Calves.

Wm. B. Carleton, E. S. Parker, J. D. White, S. P. Spofford, Nathaniel Annable, Committee.

STEERS.

The Committee award the first premium of $4 to John C. Tarlton, of West Newbury, for his yearling Steers.

Francis Dodge, Charles W. Titcomb, Robert A. Smith, D. M. Tukesbury, Committee.

WORKING OXEN.

The Committee on Working Oxen report:—

There were ten yoke of Oxen and four pairs of Steers

entered for premium. Dr. J. R. Nichols, of Haverhill, presented a pair of well-matched and well-trained cattle, that could draw, back, push, or do almost anything required, and the Committee award to him the first premium of $12.

The second premium of $10 they award to Charles O. Cummings, of Andover, for his dark-red Oxen.

For the best pair of Steers they award the first premium of $8 to Joseph S. How, of Methuen.

The second premium of $5 they award to Wm. Foster, of North Andover.

The Committee would say there were several pairs of Oxen that performed their work very well, but appeared to need a little more training.

The attention of the Committee was called to a town team from Bradford — seventeen yoke of noble Oxen — and your Committee thought they were worthy of more than a passing notice. It is seldom that so many good Oxen are seen together, not a mean one being found in the lot. The Committee thought the seventeen pairs were worth $5000. Can another town in Essex County furnish such a team? And yet the gentlemen from Bradford told the Committee they expected five pairs more as good as the average of those they presented. Your Committee would recommend a gratuity of $30 to the team.

James Holt, Roger Buttrick, Andrew Mansfield, Committee.

FARM AND DRAFT HORSES.

The Committee on Farm and Draft Horses respectfully report that seven Horses were entered and but five appeared for trial.

They award the first premium of $10, to M. H. Poor, of West Newbury.

The second premium of $8, to J. L. Farnham, of North Andover.

The Committee would say that they considered the horse entered by Samuel Moody, Jr., of West Newbury, a very superior animal for farm purposes, but, being smooth-shod, and the ground slippery, he did not perform as well as he might otherwise have done.

Edward H. Little, Moses A. Shackley, Rufus Slocum, Geo. A. Abbott, Committee.

FAMILY HORSES.

The Committeee on Family Horses have attended to that duty. and report eight horses entered for premium.

They have awarded the first premium of $10, to Mrs. B. B. Pool, of Byfield.

The second premium of $8, to John Gardner, of Haverhill.

J. W. SNOW, Chairman of Committee.

BROOD MARES.

The Committee on Brood Mares, having carefully examined the same, make the following report, viz:

There were ten entries, and we have awarded the premiums in the following manner:

The first premium of $15, to Enoch Northend, of Bradford.

The second premium of $10, to John Gardner, of Haverhill.

The third premium of $8, to Phineas E. Davis, of Haverhill.

The Committee found that most of the Mares entered were of a superior class, so that they found it difficult to make the selection satisfactory to themselves.

Seth Kimball, George W. Winslow, J. B. Spiller, Committee.

COLTS.

The Committee on Colts present the following report, with their award of premiums:

In the class of Four Years Old were four Colts.

1st. A grey gelding, weighed 1030 lbs. two weeks since, owned by Mr. Nathaniel Gage, of North Andover; sired by a horse called "Ben. Butler," he by "Trotting Childers;" dam not known to his owner, but a gentleman of the Committee knew her to have been a first-class roadster.

2d. A bay gelding, weight not known, owned by Mr. John L. Knight of Haverhill; sired by a horse called "Humming Bird," whose pedigree was not known to Mr. Knight; dam, a French mare of good speed.

3d. A bay gelding, weight not known, owned by Mr. J. B. Spiller, of Haverhill; sired by a horse called "Ben. Butler;" dam, a Morgan mare of good repute.

4th. A sorrel filley, weight not known, owned by Hon.

James H. Duncan, of Haverhill; sired by "Prince Albert," owned by Mr. George Lee, of Haverhill; dam, known as the "Brown Mare."

The first premium of $10 was awarded to the sorrel filley of Hon. James H. Duncan, of Haverhill.

The second premium of $5 was awarded to the grey gelding of Mr. Nathaniel Gage, of North Andover.

In the class of Three Years Old were four Colts.

1st. A brown gelding, weighed 938 lbs., owned by Mr. Cyrus K. Ordway, of West Newbury; sired by a horse owned by Dr. William Coggswell, of Bradford; dam, a Morgan mare. This colt was ruled out by the Committee on account of lameness, and on examination it was thought that the incipient stages of spavin caused the colt to limp.

2d. A black gelding, weighed 1010 lbs., owned by Mr. D. L. Goodrich, of West Newbury; sire, a horse owned by Dr. William Coggswell, of Bradford; dam, a good traveller.

3d. A bay filley, weighed 875 lbs., owned by Mr. R. Lynch, of West Newbury; sired by "Young St. Lawrence;" dam, a Messenger mare, a good roadster.

4th. A black gelding, weighed 850 lbs., owned by Mr. H. M. Chadwick, whose pedigree, as presented by Mr. Chadwick himself in writing, was as follows:—"Sired by 'Young Childers,' he by 'Trotting Childers;' dam, a Messenger mare called 'Lily Dale,' now owned by Mr. Jellison, of Great Falls, N. H.

The first premium of $6 was awarded to the black gelding of Mr. H. M. Chadwick, of Bradford.

The second premium of $4 was awarded to the black gelding of Mr. D. L. Goodrich, of West Newbury.

In the class of Two Years Old were three Colts.

1st. A brown gelding, weight not known, owned by Mr.

James H. Winchell, of Haverhill; sired by "Trotting Childers;" dam not stated.

2D. A bay gelding, weight not known, owned by Mr. E. R. Todd, of Rowley; sired by an Ethan Allen colt; dam, believed to have trotted in three minutes.

3D. A brown gelding, weight not known, owned by Mr. Wm. M. Chase, of Haverhill; sired by "Trotting Childers;" dam owned by Mr. Samuel Moody, and took the first premium as a Brood Mare, at Lawrence, in 1864.

The first premium of $5 was awarded to the sorrel gelding of Mr. W. M. Chase, of Haverhill.

The second premium of $3 was awarded to the bay stallion owned by Mr. E. R. Todd, of Rowley.

In the class of Yearlings were four Colts.

1ST. A red Roan, weight not known, owned by Mr. Farnnum Spofford, of North Andover; sired by "Danvers Boy;" dam said to be quite fast.

2D. A bay, weight 700 lbs, owned by Mr. Joseph Newell, of West Newbury; sired by a Canada horse; dam, a colt bought in Canada. Some of the Committee thought this colt should have been classed as a two year old.

3D. A sorrel, weighed 695 lbs. in August last, owned by Mr T. Weed Quimby, of Amesbury; sired by Taggart's "Abdallah;" dam, a Messenger and Morgan mare. This colt had a bunch on his off-forward knee, but from the opinion of a member of the Committee well versed in the matter, it was only occasioned by rubbing in the stall, and could easily be reduced in 24 hours.

4TH. A bay filley, weight not given, owned by Mr. C. H. Palmer; sired by a horse owned by Mr. John Kimball; dam, a small but smart mare.

The first premium of $4 was awarded to the sorrel colt owned by Mr. T. Weed Quimby, of Amesbury.

The second premium of $3 was awarded to the red Roan colt of Mr. Farnham Spofford, of North Andover.

The Committee take the liberty to suggest to those presenting Colts, the propriety of stating as clearly and as accurately as possible, as of just as much consequence, the pedigree (when it can be obtained) on the dam's side as on the sire's, and to have these pedigrees always ready for the examination of the Committee. They would also advise the selecting of suitable men, who are accustomed to the handling of colts, to show them ; or would recommend the presence of the owners themselves, that the stock may appear to the best advantage.

It may also be well to add here that a colt showing marks of unsoundness has no chance for premiums from a committee which should always be selected for its ability to judge of such matters, and that lame colts, with spavins partially grown, can have no favors ; and it is earnestly urged, as far the more profitable, and most assuredly the most satisfactory course, the breeding from nothing but stock of pure pedigree as only worth raising at all.

Samuel C. Oliver, Eben King, Committee.

STALLIONS.

The Committee on Stallions having attended to their duties, make the following report :

They award the first premium of $15 to E. T. Northend, of Bradford, for his six year old Stallion, " Hiram Woodruff ; " and the second premium of $10 to George B. Martin, of Danvers, for his five year old Stallion, " Danvers Boy."

The first premium of $8 to Elbridge Battell, of Newburyport, for his three year old Stallion ; and the second premium

of $5 to George Coffin, of Haverhill, for his three year old Stallion.

WILLIAM COGGSWELL, for the Committee.

SHEEP — COARSE WOOLED.

The Committee on Coarse Wooled Sheep report :

For the best flock of Sheep, first premium of $8, to Charles Corliss, of Haverhill ; second premium of $5, to Joseph Newell, of West Newbury.

For the best Buck, premium of $6, to Charles Corliss, of Haverhill.

Calvin Rogers, Ariel H. Gould, George Worcester, S. B. Swan, Committee.

SWINE.

The Committee on Swine report that they found entered for premium two Breeding Sows one by O. H. Roberts, of Haverhill, with 12 pigs, but the Committee could not find them on exhibition — and one by Daniel Carlton of North Andover, with 10 pigs, to whom we award the first premium of $8.

There were three Boars — two by William Foster, of North Andover, to whom we award the first premium of $8 ; one by Robert Buxton, of South Danvers, and we award to him the second premium of $5.

We also found ten Weaned Pigs on exhibition for premium — six by J. Longfellow, of Byfield, two months old, to whom we award the first premium of $5 ; four by John P.

Foster, of North Andover, five months old, and we award to him the second premium of $3.

We would also make honorable mention of four Sow Pigs, for *exhibition only*, by J. Longfellow — specimens of pigs raised on Deer Island by T. E. Payson, which showed close observation and sound judgment in breeding Swine.

Paul T. Winkley, Paul D. Patch, B. P. Pool, Committee.

POULTRY.

We, the undersigned, Committee on Poultry, have attended to our duty and make the following report:

We award to Wm. Rankin, Jr., for one coop of Brahmas, a gratuity of $5.

To Henry McLawlin, one coop of Leghorn, a gratuity of Harris' Book on Insects.

To Robert G. Buxton, one coop of Brahmas, gratuity of $2; one coop of Geese, gratuity of $2; one coop of Ducks, gratuity of $2.

To Jos. R. Patterson, of South Danvers, one coop of Ducks, a gratuity of $2; one coop of Geese, gratuity $1.

To Henry McLawlin, of Haverhill, one coop of Spanish, a gratuity of $1.

Daniel Buxton, Jr., Charles T. Chase, John Swinerton, Committee.

PLOUGHING — WITH DOUBLE TEAMS.

The Committee on Ploughing with Double Teams would report:

They award the first premium of $10 to J. L. Farnham and Daniel Carlton, of North Andover. Plough—Hussey, No. 16.

The second premium of $9 to J. & D. L. Goodridge, of West Newbury. Plough — Hussey, No. 16.

The third premium of $8 to R. T. Jaques, of Newbury. Plough — Hussey, No. 20.

The fourth premium of $7 to C. O. Cummings, of Andover. Plough — Whittemore & Belcher.

I. Longfellow, Isaac Patch, Benjamin F. Jenkins, Sherman Nelson, Joseph S. Howe, Committee.

PLOUGHING — WITH SINGLE TEAMS.

Report of Committee on Ploughing with Single Teams :

One team only was entered. We award the second premium to John P. Foster, of North Andover, the sum of $6.

James P. King, Joseph A. Lunt, Samuel A. Merrill, Dean Holt, Committee.

PLOUGHING — SIDE HILL PLOUGH.

Report of Committee on Ploughing with Side Hill Plough :

Two teams only were entered. The Committee award to William Foster, of Andover, the first premium of $10.

To Cyrus K. Ordway, of West Newbury, the second premium of $8.

The Committee would further say in regard to the ploughs used, and in justice to the ploughmen, while the work of both was done well, they have a decided preference for the Nourse

Plough used by Mr. Foster; the Doe Plough used by Mr. Ordway, being lighter, was easily thrown out of the furrow by small stones, thereby making a loss of time in backing the team, besides causing harder work for the holder of the plough.

JOHN DANFORTH, Jr., for the Committee.

PLOUGHING — WITH HORSES.

The Committee on Ploughing with Horses report as follows:

There were four entries made for ploughing. They award the first premium of $8 to Otis F. Putnam of Danvers; second premium of $6 to Jacob & J. L. Farnham, of North Andover; third premium of $3 to Wm. P. Buttrick, of Haverhill.

James D. White, Daniel H. Stickney, Elijah Clark, E. S. Parker, Roger Buttrick, Committee.

DAIRY.

The Committee present were — Joseph How, James Chamberlain, John A. Putnam, David S. Caldwell, James Nayson and Nathaniel Lambert — a goodly number, and (aside from the Chairman) efficient men.

There were twenty-one samples of Butter to be examined, and the most of it proved to be of superior quality — some of it nearly perfect.

The Committee, after careful examination, came to the following result. There was, however, some difference of opinion among the Committee, as there were many samples so nearly alike, but, being all loyal men, (no rebels among them,) they concluded to be governed by republican principles — the majority rule — and would recommend the following premiums :

First premium of $12, to Mrs. Nathaniel Carleton, of Bradford.

Second premium of $10, to Ezra Batchelder, of Topsfield.

Third premium of $8, to Sarah L. Ridgeway, of West Newbury.

Fourth premium, Harris' Insects, Mrs. George Spofford, of Georgetown.

CHEESE.

There were three specimens of Cheese, for which the Committee would recommend the following premiums :

First premium of $12, to D. L. Goodridge, of West Newbury.

Second premium of $10, to N. W. Moody, of West Newbury.

Third premium of $8, to Daniel P. Nelson, of West Newbury.

There have been rarely, if ever, so many samples of superior Butter entered for premium as at the present. Some of the samples were entered by old veterans in butter making, who have heretofore often received the Society's premiums ; others have entered, whose names were never seen there before ; and it is extremely gratifying to see so much interest manifested among our good dairy women, and more so that there are younger ones coming forward to take the place of those who are passing away.

There are many things to be considered in making good butter and in making it profitable. First, good cows are indispensable, as there is much difference in the quantity and

quality of the butter made from them ; hence every person should know the quality of each cow separately. Good keeping is also necessary, as it has much to do with the quality as well as the quantity of the butter. In addition to English grasses, green corn stalks, pumpkins, or carots, are good keeping for butter. Next, a good place for setting the milk. It should be cool and dry, with good ventilation, and, as much as possible, let the air draw through the room. The room should also be kept light, as light tends to make the butter yellow. Care should also be taken that nothing having an offensive odor should come in contact with the butter, as it rapidly imbibes anything of the kind. It is therefore necessary that all the utensils used in the process of butter making should be kept perfectly clean and sweet.

With regard to the process of making butter we cheerfully refer to the statements of those ladies who receive the premiums.

The art of butter making is not new ; from the early ages it has been used. Abraham, when entertaining his celestial guests, set before them butter and milk with the tender calf that had been dressed ; but how his good wife Sarah made the butter we are not informed, neither are we informed what kind of cows gave the best milk, whether Jacob's ring streaked and speckled were of a superior quality.

It is said in some of the Eastern counties, at the present time, they churn their butter as follows : — Put the milk into bottles made from the skin of the goat, put it on the camel's back and start for market ; when they arrive the butter is ready for use. Such butter would hardly be expected to receive a premium at our fair.

JOSEPH HOW, Chairman of Committee.

STATEMENT OF MRS. CARLETON.

I present for your inspection 18 lbs. and 10 oz. of butter made in September, from the milk of six cows in two days

and a half. The milk was strained into tin pans and placed in a cool and well ventilated room, the cream taken from the milk in 36 hours after being milked ; then churned, and salted to the taste after standing in a cool place 24 hours. It was then worked over till the buttermilk was all out.

STATEMENT OF MRS. GEO. SPOFFORD.

I present for premium 15 pounds of September butter, made in the following manner : The milk was strained into nicely scalded pans and allowed to remain so until sour, in a well ventilated room ; then skimmed into tin pails ; stirred once a day until churned. When taken from the churn, salted to the taste ; then set away until the next morning ; worked with the hands and made into balls as presented.

STATEMENT OF EZRA BATCHELDER.

I present for your inspection 15 pounds of September butter. The process of making is as follows. The milk is strained into tin pans and set in a cellar prepared for the purpose, and allowed to remain from 36 to 48 hours ; the cream is then removed to stone jars, and stirred twice a day. We churn once a week, and salt to the taste. The butter is worked by hand twice and formed in pound lumps.

STATEMENT OF MRS. RIDGEWAY.

I offer for premium 15 pounds of September butter, made in the following manner : The milk was strained into nicely scalded tin pans and allowed to remain 36 hours in a ventilated cellar ; then skimmed into tin pails and the cream

stirred morning and evening. As soon as churned (which was twice a week) it was washed in cold water and salted to the taste, with rock salt, and worked twice with the hands, at intervals of ten or twelve hours.

STATEMENT OF D. L. GOODRIDGE.

I present for examination four New Milk Cheeses. Each Cheese contains the milk of two days. My manner of making it is as follows: Strain the evening milk; add rennet in sufficient strength to form a curd in thirty minutes; let it stand one hour, then break and place to drain until morning; repeat this process with the morning's milk. Scald the curds with water; drain thoroughly; chop fine; salt and press twenty-four hours.

STATEMENT OF DANIEL P. NELSON.

I present for your inspection four New Milk Cheeses, one of which is sage. The manner of making is as follows:— Strain the milk into a tub as soon as drawn from the cows at night; add rennet in sufficient strength to form a curd in an hour; slice it and let it remain in the tub until morning; repeat this process with the morning's milk; scald the curds with water; drain thoroughly and grind fine; allow half an ounce of salt to a pound of curd, and press twenty-four hours.

STATEMENT OF N. W. MOODY.

The Cheese that I offer for your inspection was made in the following manner: — The milk was set as soon as it was drawn from the cows at night, and rennet enough added to

form the curd in half an hour, when it was broken and left to drain. When sufficiently drained, it was sliced and put in the cellar; the same process was repeated with the morning's milk. The curds were then put together, with warm water enough to cover them; after remaining twenty minutes, they were drained, chopped fine, and salted with half an ounce of salt to a pound of cheese, and a teaspoonful of saltpetre well stirred in, and pressed 36 hours.

ARTICLES MANUFACTURED FROM LEATHER.

The Committee regret to see *so little interest* in this department. They, however, award

To Rufus H. Page, of Groveland, for his fine display of Machine Sewed Ladies' Shoes, the first premium of $5.00

To Winchell Bros., of Haverhill, for Ladies' Shoes, the second premium of . 3 00

To P. S. Dwinnels, of Georgetown, for his superior pair of Brogans, a gratuity of 2.00

To Kelley & Blaisdell, of Haverhill, for Women's Pegged Shoes, a gratuity of 3.00

To Goodrich and Fitts, of Haverhill, for Ladies' Slippers, a gratuity of 3.00

To Goodwin & Jaques, of Haverhill, a gratuity of 1.00

To C. D. Wallace, of Haverhill, a gratuity of 1.00

To G. F Perkins, of Haverhill, for Boots, a gratuity of 1.00

To J. M. Poor & Co., Haverhill for Shoes, a gratuity of 50

To Geo. J. Tenney & Son, of Georgetown, for Sole Leather, a gratuity of 1.00

To J. Kelley, Haverhill, for Shoe Trees, a gratuity of 1.00

To D. Woodbury & Co., of So. Danvers, for lot of Skins, a gratuity of 2.00

To Burnham & Cheeney, of Haverhill, lot of Heels, a gratuity of $1.00

To Geo. H. Waterhouse, Topsfield for Dies, a gratuity, 50

To J. S. S. Gage, of Haverhill, for Box Heels, " 50

To Daniel Peters, of Haverhill, for Harness, " 4.00

DANIEL. H. STICKNEY, for the Committee.

MILCH COWS.

There were five Cows entered for premium, and six for exhibition only.

The Committee award the first premium of $25, to Henry G. Kimball, of Bradford, for his half Ayrshire cow.

They award the second premium of $10, to S. G. Sargent, of Methuen.

It will be seen by Mr. Kimball's statement, that his cow has not been highly fed, yet she has undoubtedly had good care. High feeding often injures a good cow, but good care does not. It was a question with some whether he was entitled to premium according to the rules of the Society, which require the milk to be weighed for the first ten days in June and September. We do not think that it was the intention of the rule to debar a cow, that had not calved on the first of June, from competing for a premium—if, from the time she did calve, we had satisfactory evidence of the quantity of milk. We know that the letter of the rule requires the milk to be weighed, but when the measure is given the weight can be readily obtained. As milk is sold by measure and not by weight, we think that in future, when the premium is offered, the rule should require either weight or measure.

We noticed in the pens some fine Dutch cattle exhibited by W. A. Russell, of North Andover. We had no statement in regard to the cow, and could not award any premium. From

her appearance, we should think that the account given in the *Marklane* paper was correct:—"The Dutch cows beat the world in the quantity of milk they give, but they consume a large amount of food, and it is difficult to fatten them after they fail for the dairy."

William B. Carlton, of Haverhill, exhibited a fine herd of cows, we are told by those that ventured out in the rain to look at them. We hope that next year the Committee will have an opportunity to see them under more favorable circumstances.

Wm. R. Putnam, Henry A. King, Joseph Longfellow, Edward K. Lee, Z. C. Wardwell, George Johnson, Committee.

STATEMENT OF HENRY G. KIMBALL.

One cow, five years old, half blood Ayrshire, half Durham; she dropped her last calf July 30th, 1866; she is with calf, to calve May 29th, 1867, by the Dutch bull, "King Charles." During the month of August she averaged 19½ quarts of milk per day; during the month of September, up to the 24th, she averaged 18 quarts of milk per day. Her milk is of excellent quality. She has had no fall feed nor extra keeping.

BREAD AND HONEY.

The Committee on Bread and Honey report, that there were sixteen entries of Bread and six entries of Canned Pears, but no entry of Honey.

Some of the bread was so new that it was difficult to judge

of its quality. The Committee, however, were unanimous in awarding the first gratuity to Joanna Horrigan, Haverhill, $2.00

To Ann Attridge, of Haverhill, 1.00

To Ellen Conners, of Haverhill, 1.00

To Mrs. E. K. Jenkins, of Andover, 1.00

Miss Belle Bailey, aged thirteen years, entered a loaf of bread, which, of the kind, was good, but the regulations of the Society would not admit of awarding her a gratuity.

The Committee recommend a gratuity of $2 to Mrs. Josiah M. Littlefield, for best Canned Pears; $1 to Mrs. H. S. Blodgett; $1 to Mrs. F. Reed; 50 cents to Mrs. Thomas Dodge, and 50 cents to Mrs. Elbridge Webster, of Haverhill.

ALFRED KITTREDGE, for the Committee.

PEARS.

The varieties shown, although not so extensive as in some previous years, were fine, particularly the Flemish Beauty, Duchesse d'Angouleme, Beurre d'Anjou and Beurre Bosc. The following premiums and gratuities were awarded by your Committee:

For the best 12 specimens of the Bartlett, to Harvey Ray, of Haverhill; Belle Lucrative, to William Maloon, of Salem; Flemish Beauty, to E. P. Hill, of Haverhill; Beurre Bosc, to H. G. Herrick, of Lawrence; Beurre Superfine, to J. V. Stevens, of South Danvers; Beurre Langali o, do. Swan's Orange, to W. D. Northend, of Salem; Doyenne de Comice, do.; Passe Colmar, to Peter Wait, of Danvers; Seckel, to Wm. Maloon, of Salem; Buffum, to E. Mitchell, of Haverhill; Winter Nelis, Black Pear of Worcester and Vicar of Winkfield, to W. D. Northend, of Salem; Andrews, to Wil-

liam Maloon, of Salem ; Glout Morceau, to E Page, of Bradford; Lawrence, to W. D. Northend, of Salem; Louis Bon d'Jersey, P. G. Parmenter, of Bradford; Beurre Clairgeau, to G D. Glover, of Salem; Golden Beurre, to Charles F. Ives, of Salem; Thompson, to B. P. Ware, of Marblehead; Duchesse d'Angouleme, to Moses How, of Haverhill; Catillac, to W. R. Whittier, of Haverhill; Urbaniste and Fulton, to Peter Wait, of Danvers; Wilkinson, to Charles F. Ives, of Salem; Beurre Diel and d'Anjou, to E. Gage, of Bradford; Paradise of Autumn, to Wm. Maloon, of Salem; Maria Louie, to Peter Wait, of Danvers; Heathcote, to D. P. Harmon, of Haverhill;—$1 each.

For the best exhibition of Pears by one individual, "Harris' Insects," to William Maloon, of Salem.

The following Gratuities, of 50 cents each, were awarded:

J. Flanders of Haverhill, J. Chase, E. B. Lebosquett, E. Mitchell, C F. Ives, B. P. Ware, John V. Stevens, P. G. Parmenter, Warren Ordway, J. & C. Stevens, J. B. Sargent, E. Hunking, G. H. Carlton, David Boynton, A. F. Bosson and William Maloon.

John M. Ives, J. V. Stevens, John R. Langley, Warren R. Whittier, Robert Manning, George Coggswell, Committee.

APPLES.

The Committee on Apples award for the best 12 specimens of the following varieties a premium of $1 each:

Peter Wait, Danvers, Hunt Russet, Danvers Winter Sweet, Minister, Ramsdell's Red Sweet, Roxbury Russet, Swaar, Northern Spy; Benj. P. Ware, Marblehead, Pickman Pippin, Haskell Sweet, Sweet Baldwin, Drap d'Or, Lyscom, Ben or

Eustice; George W. Chadwick, West Boxford, Hubbardston Nonsuch, Rhode Island Greening; W. L. Weston, Danvers, Seaver's Sweet, Ladies' Sweet; William Caldwell, Bradford, Porter; John Carleton, Haverhill, Baldwin; John Keely, Haverhill, Gravenstein; Nathaniel Annable, South Danvers, Fall Harvey; J. G. Dwinells, West Newbury, Green Sweet.

For the best exhibition of Apples, "Harris' Insects," to Peter Wait, Danvers.

A gratuity of $1 each to Clara Gale, Bradford; George M. Young, Haverhill; T. K. Leach, Topsfield; Geo. W. Chadwick, West Boxford. 50 cents each to P. E. Davis, Haverhill; George S. Walker, Groveland; J. B. Hoyt, Haverhill; William Buttrick, Bradford; William Hall, Bradford; Edmund Gage, Bradford; Alfred Ordway, Bradford; Mrs. John Page, Groveland; Henry Hobbs, Wenham; R. Webster, Haverhill; J. B. Sargent, West Amesbury; Wm. B Carlton, Haverhill; H. S. Brown, Haverhill; Israel Carlton, Haverhill; S. W. Randall, Bradford; Johnson Noyes, Haverhill; J. J. Marsh, Haverhill; F. Butters, Havereill; Warren Ordway, Bradford. $1.50 to D. P. Harmon, Haverhill We would also make honorable mention of apples from George Sumner, of Plaistow, N. H.

Your Committee regret to say that the show of apples this year is very small, compared with former exhibitions. Ten years ago the Society's tables were *loaded* with the choicest specimens from all parts of the county—excelling, even, those of the Massachusetts Horticultural Society—while to-day, were it not for the efforts of two or three individuals, the show would hardly do credit to one of our town, or farmers' club fairs.

While pears and grapes are receiving increased attention, the apple—the most important fruit of all—has been "left out in the cold," at least as far as regards our exhibitions. We are aware that the *trees* throughout this section are looking badly; but this (as well as the partial failure of the apple crop) we attribute mainly to the ravages of insects, (partic-

ularly the Canker Worm,) and also to the drought of the two last seasons.

The Essex Society have, for the last few years, generously offered a premium for a cheap and effectual remedy for the ravages of the Canker Worm; and while we have patiently waited to see what ingenuity might invent, or wisdom devise, the *Canker Worms* have kept steadily at work, and nearly proved the destruction of some of our finest orchards. In former times their ravages have generally been limited to a term of three or four years, but this time they have already gone beyond that term, even to five or six years. To be sure, last spring they were not as numerous as before, but it becomes us *all, every one,* who own apple trees, to do something at once for their destruction. We would say, then, emphatically, *protect* your trees—and what are not worth protecting, *cut down.* There are *thousands* of old apple trees in pastures and by roadsides, in this county, which will never do credit to any one, and the sooner they are cut down the better; all they will do during their protracted lives, will be to feed Caterpillars, Canker Worms, Borers, etc. The same might apply to numerous wild cherry trees, which annually bear heavy crops of Caterpillars, to attack apple trees the next season. None of these insects are very formidable, except the Canker Worm; and to destroy this, many use troughs filled with oil, or tin protectors; others object to these on account of the *expense* and *care*, which it is necessary to use. Others still go back to the old fashioned remedy of tar—but from numerous inquiries and observation, we are inclined to think that *printers' ink* is as effectual, and not near as expensive as tar. Those who have used it with success, moisten it with oil, and apply with a brush, the same as with tar, being careful to protect the trees with tarred paper, or something else of that nature. The advantages over tar are, that it is less expensive, and does not need to be applied oftener than once in two or three weeks. Next, we would advise *very shallow ploughing* for orchards — (late in autumn would be preferable) — manure

if necessary, and *gradually* prune out all dead and decaying limbs. To produce *fruitfulness*, the pruning should be done in summer; to produce *growth*, in winter.

Apple trees are often planted injudiciously upon wet or springy land, which is the cause of their premature decay. The loss of the apple crop is a serious one to many farmers; one half, at least of the actual income of many farms in this county was formerly derived from this crop. It was the *most* profitable crop, considering the expense. Let us look to it, that it may be so in future.

It is the opinion of your Committee, that many of the *varieties* of apples, for which premiums are offered year after year, have either a *local* value, or no value at all for general cultivation, and ought to be discarded. Some of them are as unproductive, and as much out of date, as is the old St. Michael pear. We would recommend for general cultivation, only a *few* varieties, and those of the highest excellence, both as regards the growth and fruitfulness of the tree, and the value of the fruit in the market.

T. C. Thurlow, George W. Gage, James Flint, Alfred Fellows, William Chickering, Committee.

GRAPES, PEACHES AND ASSORTED FRUIT.

The committee were very happily disappointed in finding so large and very superior show of Grapes. There were 113 plates entered, by twenty-two individuals, which in quality the Committee think they have never seen surpassed at any show. They would especially mention the very superior show of thirty-one plates—nineteen kinds of Grapes—by Eben Mitchell, of Haverhill; also that of seventeen plates

of hardy Grapes, by G. W. Gage, of Methuen, among them a very fine dish of Allen's White Hybrid, which may be numbered among the best of the new Hybrids; and to have originated such varieties as Rodgers' Nos. 19, 15 and 4, richly entitles the producer to the grateful thanks of the whole community, made better and happier by the growing of such delicious fruit.

Nor do the Committee forget the superior qualities of the Concord and Delaware Grapes, which they feel that they can confidently recommend for general cultivation. Many superior specimens of each were shown upon the tables to-day. After a careful examination the Committee award the following premiums and gratuities:

For the best specimen of Concord, to James R. Nichols, of Haverhill, $1; do. Hartford Prolific, to T. C. Thurlow, of West Newbury, $1; for best Isabella, to J. M. Ives, of Salem, $1; do. Delaware, to D. P. Harmon, of Haverhill, $1; do. Iona, to Moses How, of Haverhill, $1; for best specimen of Isabella, to Moses How, of Haverhill, $1; do. Adirondack, to E. Mitchell, of Haverhill, $1; do. Allen's White Hybrid, to G. W. Gage, of Methuen, $1; do. Rodgers' Hybrid, No. 19, to G. W. Gage, of Methuen, $1; do. do., No. 15, to E. Mitchell, of Haverhill, $1; do. do., No. 4, to J. M. Ives, of Salem, $1; do. do., No. 3, to E. Mitchell, of Haverhill, $1; for best assortment of Cold House Grapes, to E Mitchell, of Haverhill, $2.

For best White Flesh Peach, to W. R. Whittier, of Haverhill, $1; for best Yellow Flesh Peach, to W. R. Whittier, of Haverhill, $1.

For best basket of Assorted Fruit, to Peter Wait, of Danvers, $3; second best basket of Assorted Fruit, to Nelson Bodwell, of West Boxford, $1.

For a plate of Figs, a gratuity to D. Emery, of Haverhill, 50 cents; for five plates of Grapes, a gratuity to A. F. Bosson, of Salem, $1; do, do., a gratuity to Adrian Chase, of Haverhill, $1; two plates do., a gratuity to Chas. Barker, of

Haverhill, $1 ; for very fine show of Grapes, a gratuity to E. Gage, of Bradford, $1.50 ; for plate of Coe's Golden Drop Plum, a gratuity to E. Gage of Bradford, 50 cents ; for show of Grapes, a gratuity to D. P. Harmon, of Haverhill, $1 ; for show of Concord Grapes, very fine, a gratuity to J. N. Snow, of Haverhill, $1 ; for waiter of Fruit, very fine, a gratuity to Luther Bartlett, of Haverhill, 50 cents.

Benj. P. Ware, Josiah Newhall, William Hall, Committee.

VEGETABLES.

The Committee on Vegetables beg leave to make the following report:

Number of entries, 43. We were unanimous in awarding for the largest and choicest variety of Vegetables from any Farm or Garden in the County, as follows :

To S. A. Merrill of Danvers, first premium, $12 ; Richard Webster, of Haverhill, second premium, $6.

They would recommend the following gratuities :

To David Wentzell, Salem, $5 ; M. Batchelder, So. Danvers, $4 ; J. G. Eaton, Haverhill, $3 ; Jacob Gale, Bradford, lot of Potatoes, $1 ; N. Bodwell, Boxford, do., $1 ; D. Atwood, Groveland, do., $1 ; A. P. Johnson, Bradford, do., $1 ; C. A. Gordon, Haverhill, lot of Pumpkins, $1 ; W. B. Carleton, Haverhill, do., $1 ; Robert Stevens, Bradford, lot of Squashes, &c , $1 ; F. G. Phillips, Bradford, do., $1 ; Ira Libby, Bradford, do., $1 ; H. K. West, Haverhill, do., $1 ; C. E. Morse, Bradford, do., 50 cents ; John Carleton, Haverhill, do., 50 cents ; Moses How, Haverhill, do., 50 cents ; E. S. Parker, Groveland, do., 50 cents ; T. H. Balch, Groveland, mammoth

Squash, $1; J. W. Ropes, Danvers, mammoth Squash, 50 cents; James Wilson, Topsfield, do., 50 cents; Ira Libby, Bradford, lot of Parsnips, $1; H. K. West, Haverhill, do., 50 cents; Ira Libby, Bradford, lot of Carrots, $1; H. K. West, Haverhill, do., 50 cents; G. L. Gage, Methuen, lot of Tomatoes, $1; Ira Libby, Bradford, do., 50 cents; H. K. West, Haverhill, lot of Onions, $1; H. F. Gile, Haverhill, do., $1; A. P. Johnson, Bradford, lot of Turnips, $1; John Carleton, Haverhill, do., $1; Levi Emery, Lawrence, lot of Cabbages, $1; F. G. Phillips, Bradford, do., $1; B. How, Haverhill, do., 50 cents; Ira Libby, Bradford, lot of Beets, $1; A. P. Johnson, Bradford, do., 50 cents; John Carleton, Haverhill, do., 50 cents; Levi Emery, Lawrence, lot of Melons, 50 cents; Ira Libby, Bradford, do., $1; H. K. West, Haverhill, lot of Mangel-wurzels, 50 cents; J. G. Parmenter, Bradford, lot of Squashes, $1; Moses How, Haverhill, lot of Cauliflowers, 50 cents; H. K. West, Haverhill, lot Sweet Corn, $1; do., lot Field Corn, 50 cents; Albert Kimball, Bradford, lot Potatoes, $1; E. F. Webster, Haverhill, variety of vegetables, $3; Master Charles G. Johnson, Bradford, (the young farmer,) aged eight years, for a fine basket of vegetables, his own raising, $1; A. L. Johnson, Bradford, variety of vegetables, $1: J. R. Nichols, Haverhill, do., copy of Harris' Insects; W. Ordway, Bradford, do., copy of Harris' Insects; D. H. Stickney, Groveland, do., copy of Harris' Insects.

The Committee would congratulate the Society on the exhibition made in the department to which their attention has been called, giving evidence, as it does, of the interest that has been taken.

They would also notice the contribution of Mr. S. Sumner, of Plaistow, N. H.; also the result of the planting of one kernel of corn by F. H. Gile, Esq., of Haverhill, and of J. Brown, of Haverhill—the former yielding eleven ears, the latter ten.

SEEDS.

A fine display of Grain and Garden Seeds (400 varieties) were exhibited by James J. H. Gregory, of Marblehead, and we very much regret that they were not presented previous to the awards. We are of opinion that the interest Mr. G. has taken in this branch of agriculture deserves more than a passing notice, and think we express the minds of the Society by saying that we feel proud to know that one person in our midst, at some future day, (not far distant) will provide all the seeds necessary for use in our county; and we shall not be dependent on some foreign gardner, but will encourage and depend on home production. We would recommend a gratuity of $2.

Trusting that the exhibition this year may be an incentive for further progress in the future, this report is respectfully submitted.

J. P. GILMAN, W. A. CURRIER, Committee.

FLOWERS.

The Committee on Flowers report the following awards and gratuities :

For best pair of Parlor Bouquets, Mrs. H. S. Blodget, Bradford, $2; do. Hand Bouquets, James Barrett, Bradford, $2; for best Floral Design, Mr. John Lee, Haverhill, $3 ; do. Dish Cut Flowers, Mrs. Laburton Johnson, Bradford, $2 ; do. 12 Phloxes, Messrs. Bosson & Glover, Salem, $1 ; do. Dish of Native Flowers, Mr. M. P. Atwood, Groveland, $1 ; for largest and best display of Flowers, Messrs. Bosson & Glover, Salem, $2.

GRATUITIES.

For fine display of Native Flowers, Isabella S. Parker,

Groveland, $1; fine Bouquet, Frederick Lamson, Salem, $1; two Parlor Bouquets, James Barrett, Bradford, $1; display of Flowers, Miss Emma Mitchell, Haverhill, $1. Bouquets, Mrs. Knowles, Bradford; Cassia Plant, Mrs. G. B. Foster, Haverhill; Bouquets, Phineas Ayer, Haverhill; Orange Tree, Mrs. R. G. Walker, Haverhill; Basket Flowers, H. S. Blodgett, Bradford; Bouquets, Mrs. E. G. Frothingham, Haverhill; do., Mrs. L. Johnson, Bradford; Dish Phloxes, do., do.; Flowers, Otis Nichols, Lynn; do., J. M. Littlefield, Haverhill; Bouquets, Mrs. A. F. Kimball, do.; Native Flowers, Mrs. S. M. Downs, do.; Variegated Plant, Mrs. J. S. Fuller, do.; Century Plant, James Barrett, Bradford; Bouquets, Mrs. R. I. Ordway, do.; Dish Flowers, Miss Fannie Seely, Haverhill; Geranium, Mrs. L. B. Spaulding, do.; Flowers, Mrs. Daniel Watson, do.; do.; Robert Stevens, Bradford; do., E. P. Brooks, Salem; do., Miss Alice Fitts, Haverhill,—50 cents each.

The committee express their pleasure at the very generous contributions of Flowers, and only regret that the small sum of money placed at their disposal, prevents them from awarding more and larger premiums and gratuities. The display is unusually large, and the elegance and variety, fully equal to that of any previous exhibition.

It would be an act of injustice not to notice particularly the magnificent collections of Native Flowers. Two of the prominent exhibitors offer more than fifty varieties each, and the others, splendid specimens of those most rare. The intelligence and industry evinced in the collection of these Native Flowers is of no ordinary character, and calls for high commendation.

The taste and skill shown in the arrangement of Bouquets and Dish Flowers, also deserve notice.

James R. Nichols, James West, Andrew Nichols, Laburton Johnson, Committee.

CARRIAGES.

The Committee award to Grieves & Co. the sum of $10, for the best display of Carriages.

C. S. Gage, S. W. Spalding, T. K. Leach, Committee.

FARM IMPLEMENTS.

The exhibition in this department was larger and of a more interesting character than usual. The show-tent had numerous visitors, who manifested an intelligent curiosity to see the many new inventions by which the labor of the farm is made easier and more effective. Indeed, any one who has swung a scythe or used a hand-rake through the busy season of haying, can well appreciate the saving of time, muscle and patience effected by the substitution of the Horse-Mower and the Horse-Rake. These two inventions have enabled our farmers, west and east, to harvest their hay and grain crops during the late rebellion, when there was such a scarcity of men that these crops would otherwise have been largely damaged or lost. And the high cost of labor at the present day is compelling the use of labor-saving implements on the farm to an extent never before known in this country.

It was a wise and well-timed offer, therefore, of a premium of $25, made by our President "for the best collection of Farm Implements now in use and owned on any farm in Essex County." His object was to encourage the introduction and use of the very best tools, and to direct attention to the subject in such a way as to show its connection with good husbandry. Unfortunately, there was no entry for this liberal premium, owing, perhaps, to its being made so late in the year. If the premium is continued — as we hope it will be — our next Cattle Show ought to bring out some com-

petitors. Surely, we have farmers in the county who are not ashamed to exhibit the tools they work with, but who are perfectly willing to let it be known that it is good economy for them to buy only the best. But not to enlarge on this point, we will proceed to give some account of the implements that were on exhibition, with the award of premiums therefor.

The most novel implement presented for our inspection was a Potato Digger, operated by two horses, in a rough piece of ground where the potatoes were raised in drills. The machine run on a pair of high wheels in the rear, so as to pass freely over the vines. The Digger was simply a sort of shovel-plough, which worked under the potatoes, bringing them up over it and thence through a set of iron fingers behind, so as to free them of the dirt. The driver rode on the machine, but was sometimes obliged to jump off, owing to its sudden tilting. This might, perhaps, be obviated by making the body of the machine longer. Under the circumstances, it operated well. Very few of the potatoes were cut or injured. Some few were left in the ground, owing to its inequalities. But on level ground, such as some of the cultivated plains in Marblehead and Danvers—free from rocks and seeded at a uniform depth—this machine would do good service. We think its inventor deserves great credit for his perseverance for many years in endeavors to perfect it. He has devoted himself to it with that enthusiastic faith in its possibility that will make it, if it has not already made it, an accomplished fact. We award, therefore, the highest gratuity of $8 for this horse Potato-Digger, to S. S. Hicock, of Methuen, its inventor.

Next came a group of ploughs and other farm implements, all of the latest and most approved patterns, and of the best material and workmanship, from Joel Nourse, a citizen of Lynn, in our own county, but having his agricultural warehouse in Boston. To Mr. Nourse is awarded a gratuity of $5.

A highly attractive feature in the Farm Implement depart-

ment was the exhibition of a Horse Pitch Fork, suspended between two apple trees and put in actual operation on the ground by Joseph Kittredge, of North Andover. Probably most of the spectators for the first time witnessed such a sight. In the lofty and roomy barn, this huge fork may unload hay more expeditiously than could be done by hand-forks, but for ordinary sized barns it can hardly take their place. To Doct. Kittredge we award a gratuity of $3.

There were two specimens of Horse Mowers on exhibition— one the famous Buck Eye, to be operated by a span of horses, which is so generally used in our own County, and has lately taken the highest premium at the great trial of Horse Mowers — more than fifty entries having been made — by the State Society of New York. To the Buck Eye Manufacturing Company, Fitchburg, we award a gratuity of $3. A very fine one horse Mower, called the Clipper, was entered by John M. Weare, of Seabrook, N. H., to whom is awarded $2.

Alfred Titcomb, of Amesbury, offered a new style of churn, called McIntire's Excelsior, which claims to make butter in the shortest possible time and to extract all the butteraceous properties from the cream, by grinding it through a machine attached to the churn, before it reaches the dashers. This contrivance we consider of little or no use ; the butter would come just as well without as with it. But the dashers to this churn seem to have some new and excellent qualities and we therefore award for it a gratuity of $2.

The most striking invention brought to our notice was an iron axe-handle wedge, which is inserted into the head of the handle in such a way that it can by no possibility work out, being operated by a screw. It would seem from its simplicity and effectiveness it must come into general use. We award for it, to H D. Hoyt, $2.

Two force pumps, varying in their construction and actions, were presented, the one by B. F. Watson, of Salem, styled Kelley's force pump, the other by Whittemore, Belcher & Co., of Boston, styled Joyce's double acting force pump, and we

award $1 to them respectively. Of the comparative merits of these pumps we are unable to judge. Indeed, they are not strictly in the line of agricultural implements and yet are used sometimes on our farms.

There were other implements, altogether outside the limits of the offer of the Society, and we could not properly take notice of them. We earnestly commend this department to a higher rank on the premium list of the Society.

Allen W. Dodge, Charles O. Cummings, J. B. Sargent, John Day, Jr., Committee.

COUNTERPANES, CARPETINGS AND RUGS.

The Committee on Counterpanes, Carpetings and Rugs report as follows:

COUNTERPANES.

The first premium to Miss C. G. Read, Haverhill, $4; second premium to Eliza G. Lord, Haverhill, $2; and gratuities of $1 to Ellen S. Russell of Haverhill; Mrs. E. Mitchell, do; Mrs. E. G. Tilton, do; Sarah P. Coffin, do; Susan A. Moore, West Boxford;—Mrs. A. C. Carr, Haverhill, 50 cents; Nancy Barker, do, 50 cents.

CARPETINGS.

Mrs. A. B. Brown, Haverhill, first premium, $5; Messrs. Brooks Brothers, of Haverhill, made a fine display of carpetings, which were worthy of premium, but were not entered for examination by the committee.

RUGS.

Mrs. J. Osgood, Haverhill, first premium, $3; Mrs. Lydia Smiley, do, second premium, $2; and the following gratuities:

A. W. Sumner, Haverhill, $2; S. E Morse, do, three rugs, $1.50; Mrs. Cyrus K. Ordway, West Newbury, Mr. J. R. Horne, Haverhill, Alice S. Stewart, do, Martha F Palmer, Georgetown, Mrs. E. G. Hyde, Danvers, flax cloth, $1 each; Anna D. Carr, West Newbury, 50 cents.

The Three Taylors, of Haverhill, made a fine display of clothing, carriage robes and mats, but the committee did not feel disposed to award them a gratuity as the articles were not of their own manufacture.

The committee would respectfully suggest in future a different division of the articles offered for exhibition, as many very handsome rugs and quilts, which were worthy of premium, were entered as Fancy Articles, and did not come before the committee for examination, therefore they were not able to award the full amount of money placed at their disposal.

Moses T. Stevens, Eben Sutton, E. R. Ide, S. W. Hopkinson, John Elliot, Committee.

FANCY WORK, &c.

The Committee on "Fancy Work, and all other articles" not consigned to other committees, report the following premiums and gratuities:

Mrs. Ezra Kelly, Haverhill, wrought worsted picture, $3; Miss Elizabeth C. Marsh, do, do, $2; Mrs. Mary F. Ames, do, embroidered fire screen, $1; Mrs. H. M. Hoyt, do, worsted ottomans and chairs, $1; Miss Emeline Johnson, Bradford, two affghans, 50 cents; Miss Susan B. Clark, Amesbury, affghan, $1; Miss Hattie Robinson, Haverhill, do, 50 cents; Miss Julia Hall, Waltham, do, 50 cents; Mrs. Clara Vance, Haverhill, wrought ottomans and picture, $1; Mrs. M. A. Blake,

do, worked rug, $1; Mrs. M. H. Farnsworth, do, knit shawl, 50 cents; Mrs. Bessie D. Grant, do, shell card table, $1; Mrs. E. M. Harding, do, aged 60 years, painted glass table, $1; Miss Mary E. L. Stewart, do, tidy, 50 cents; Miss S. C. Caldwell, do, embroidered flannel shirt and sacque, $3; Miss Sarah Caldwell, do, embroidered skirt, $2; Mrs. M. Wardwell, Methuen, husk basket and hat, $1; Mrs. Daniel Palmer, Haverhill, skeleton bouquet, 31; Miss Clara E. Wardwell, Andover, framed hair work, $1; Mrs. E. G. Woodward, Haverhill, oil painting, $1; Alvah S. Shedd, do, cutlery, fancy goods, pictures, etc., $1; Daniel Hook, do, Mason & Hamlin's cabinet organ, $2; George M. Guild & Co., do., piano forte, $3; Singer's Sewing Machine; $3; Humphrey's Button-hole Machine, $1; Mrs. E. H. Safford, Lamb's Knitting Machine, $2; Three Taylors, carriage robes, mats, ready-made clothing, $2; Robinson Brothers, photographs, $2; W. A. Currier, Haverhill, stoves and tin ware, $2; Jewett & Gordon, do, brackets; Ayer Brothers, do, wool hats; F. D. Brooks & Co., do, carpetings, rugs, flannels, etc.; N. Spofford, do, bit brace; J. F. Brown, do, target rifles; Sawyer & Dennison, do, rifles; Butterfield & Haven, Boston, Howe's Sewing Machine; J. A. Appleton, Haverhill, stoves and crockery ware; J. V. Smiley, do, case books, albums and paper hangings; James Noyes & Co., do, paints, oils and paper hangings; W. W. S. Overton, Bradford, coffee roaster, window blind supporter, and clothes dryer, were awarded $1 each; Mrs. A. S. Shedd, do, blanket; Miss Helen L. Lee, do, embroidered flannel skirt; Miss S. A. Palmer, do, bead bracket; Miss A. B. Stickney, do, lace work; Miss M. Chase, Newburyport, wrought handkerchiefs; Mrs. Wm. Elliot, Bradford, sofa pillow; Mrs. J. M. Littlefield, Haverhill, tidy; Miss Lizzie K. Harriman, do, shell and hair work; Mrs. G. W. Ladd, do, framed sea shell flowers; Miss Sarah Holt, Andover, silk quilt; Miss E. K. Batchelder, Newburyport, wax flowers; Sarah R. Corliss, Haverhill, hair work; George K. Hale, do, framed hair wreath; Mrs. M. A. Soule & Co., do, case millinery and fancy goods; Union

Washer; Master Charles J. Stewart, Haverhill, 12 years old, bracket; J. F. Dorr, do, chairs and ottomans; Locke & Colby, do, cotton batting; J. W. N. Hunt, do, baby carriage; N. B. Jewett, do., astronomical clock; Sidney Carpenter, do, hat and bonnet forms; Enoch Butler, do, pearl buttons and buckles; Stewart & Crane, do, box soap, were awarded 50 cents each; E. E. Jaques, do, bracket curtain, 75 cents.

James H. Carleton, R. S. Chase, J. B. Swett, S. B. Shattuck, James A. Bartlett, Robert Rich, Committee.

ROOT CROPS.

The Committee on Root Crops make the following report:

We have received three claims for premiums, viz: — one from H. A. Stiles, of Middleton, for Summer English Turnips, and one each from Hanson Ordway of West Newbury, and David Wentzell of Salem, for onions.

In the case of Mr. Stiles, we would say that he has acquired a wide reputation for success in the raising of English turnips for the summer market. We examined the crop for which he claims a premium before it was gathered, and we respectfully recommend that a premium of $8 be awarded to him.

We have examined the ground upon which the crop of onions entered by Mr. David Wentzell was raised, and we also saw most of the crop after it was harvested. The yield is a very large one and the evidence of the measurement of land and crop is not only according to rules in form but is satisfactory in substance, and we recommend that a premium of $8 be awarded to him. Respectfully submitted.

S. A. MERRILL, for the Committee.

STATEMENT OF H. A. STILES.

Nearly three-quarters of the land upon which the crop of turnips grew, (the quantity of which is two acres and three-quarters and sixteen rods) and which I offer for premium, was sowed to turnips in 1864. Manure used 9 loads, 125 lbs. Coe's superphosphate, 60 lbs. Pacific guano, 250 lbs. Rhodes' superphosphate. The remainder was grass land, upon which no manure was used.

In 1865, nearly all the land produced turnips (including the late crop) and the quantity of manure was 11 loads, together with 300 lbs. Pacific guano, 200 lbs. Rhodes' superphosphate and 1 barrel of Poudrette.

The nature of the soil is sandy and loamy.

The present year the land was ploughed in April, about seven inches in depth. Applied 18 loads of manure, of thirty bushels each, and 250 lbs. Rhodes' standard manure. Harrowed twice with tooth and smoothed the surface with the bush harrow.

Sowed the seed at different times from April 5th to May 10th in drills twenty inches apart, using a pound to the acre.

The turnips were hoed twice. The first time, weeding and thinning the plants, leaving a space of eight inches between them. Commenced harvesting the crop on June 15th, and continued it until the 1st of September, putting six in a bunch when properly trimmed and washed.

Whole No. of bunches sold, 11,525. Cash received,		$780.50
Gathered 40 bushels for stock feeding; value,		10.00
		790.50
Cost.—Ploughing, &c.,	$15.00	
Manure,	60.00	
Sowing and seed,	5.00	
Hoeing and weeding,	40.00	
Preparing for market,	150.00	
Interest on land,	15.00	
		$285.00
Profit,		$505 50

This may certify that I have surveyed the land upon which the above crop of turnips grew, and find it contains $2\frac{3}{4}$ acres and 16 rods. SAMUEL DEMSEY.

STATEMENT OF DAVID WENTZELL.

The crop of onions offered for premium was raised on one acre of land. The crop of 1864 was partly onions, the remainder beets and carrots; that of 1865 was onions. In 1864 some muscle and barn yard manure mud was used. In 1865 ten cords muscle mud was used. The soil is yellow loam, ploughed about eight inches deep once in the fall of 1865 and twice the next spring, and the ground was raked, at a cost of $16.50. About twenty-four loads of stable manure was spread on the ground and ploughed in, cost, $72. Planted April 19 with five lbs. seed, cost $9. Cut through with the weeder four times and weeded by hand three times; cost of cultivation, $23. The onions were pulled the first week in September, and carried to the barn about three weeks after; cost of harvesting, $26. There were twenty-one cart loads after cleaned of tops. Three of the cart loads were measured and contained one hundred and twenty-five bushels of 52 lbs. each, thus making the crop, after allowing for some waste, eight hundred and sixty-five bushels.

Measurement of land certified by Charles A. Putnam, surveyor; weight of crop by Edward Collins, and certificates annexed.

DESTRUCTION OF THE CANKER WORM.

A liberal premium of one hundred dollars has been offered

for several years for a new, cheap and effectual remedy for the ravages of the canker worms, hoping, in this day of improvement, that some plan would be devised for their destruction, easier and cheaper than tarring the trees.

No application has yet been made for the premium. Tarring the trees has been the most effectual method of destroying them, and has been practiced more or less for a long time.

In the latter part of the last century the canker worms ravaged the orchards in the north part of the county and I have been informed that tarring was then practiced. A late hard frost destroyed the worms and also destroyed nearly all the apples. A few apples, however, escaped on high land.

Early in the present century the worms agai n appeared and were again destroyed by a frost in the cold season of 1816. Since that time, they have not prevailed in the north part of the county, until within ten or twelve years. When they first appeared, I was somewhat alarmed, knowing their destructive nature, but a kind Providence ordained as *they* increased, the *cherry bird* (as they are called) appeared and destroyed them. One year in particular the worms were so plenty I feared my orchard would be seriously injured. The birds soon appeared like flocks of black birds, in early spring, and fortunately saved it from destruction. Every season since we have had more or less worms, but the birds have appeared in sufficient numbers to destroy them to such an extent that my orchard has received but little injury.

One word in favor of the birds. Spare them. A neighbor remarked to me last summer, "the cherry birds have been eating my cherries and I have caused many of them to be killed" A gentleman also said to me that he shot a robin which had canker worms in its mouth. He further said he thought he never should shoot another. I was not a little surprised afterward at seeing the skeletons of two robins hanging in the same gentleman's grapery, which were killed, as he said, for eating some of his fine Delawares. Now it is not strange that the birds should like fruit as a dessert, after eating

so large an amount of insects. I say, then, increase the *fruit* and *supply* the *birds, spare* them and *save* the *orchards.*

The process of tarring the trees requires much care and labor. I well remember, when a boy, assisting in tarring my father's orchard. The process, as then practiced, was nearly as follows: Tar and blubber were used, in nearly equal proportions, and applied when warm and late in the afternoon, as the insects go up the trees early in the evening. Sometimes they pass up the trees in warm weather, late in autumn, but the most of them go up in early spring, soon after the frost is out of the ground. The process must be renewed every day, otherwise the tar gets hard, and the grubs pass over. Much care and experience is necessary to judge correctly whether they will run or not, the expression used to be. As I have before said, they go up the trees only in warm evenings, hence, if a person cannot judge somewhat correctly, they will sometimes tar when unnecessary, and at other times omit it when necessary, as they do not run every evening after they commence, but depend on the weather. Therefore it requires more care and labor than it otherwise would.

I recollect too that various remedies were formerly used, but nothing proved effectual except tarring and that but partially.

The apple tree protector, as it is called, has of late been used to some extent, and it is said with good success. But it is somewhat expensive to be used on large orchards, and further, it is said that the grubs will deposit their eggs on the bark of the tree or something else, and if care is not used to destroy them, the eggs will hatch and the smaller worms will pass up the tree and nothing will prevent.

Another method has been adopted which is said to be effectual, which is placing coal tar, or oil, in a groove or trough around the tree. This is attended with considerable expense and requires much care, as the wind will blow out the oil and blow in leaves; also the grooves will be filled with rain. An article has been recently published in the papers, recommending printers' ink, to be used instead of tar around the trees, as

it is said it will retain its softness for two or three weeks, and, if applied on tarred paper put around the trees, it requires but little ink and will be attended with small expense. Your Committee think the subject worthy of notice, and hope it will be carefully tried and the result made known to the Society.

JOSEPH HOW, Chairman.

Methuen, Nov. 15, 1866.

FARM BUILDINGS.

The Hon. William Sutton, President of the Essex Agricultural Society, has generously offered four premiums, of $25 each ; one for the best arrangement of farm buildings, economy (supposed) to be taken into the account. It is of as much importance to have farm buildings well arranged and convenient, as it is to have improved farm implements, such as the mower, the horse rake and others of like character.

The writer well remembers the time when some barns had no doors to the floor way, a few rails answering the purpose, and the boarding was so loose, that if a hen should unfortunately be buried in the hay under the beam, she could in some instances escape through the openings between the boards, or, if the space was not sufficient, she could put out her head and cry for help. Such a case was fortunate for the hen, but unfortunate for the cows, as they would be cold, and in stormy weather, covered with snow, would give but little milk, and when the time arrived for their accustomed drink, would rather stay in the cold barn, thirsty, than to buffet the storm to the spring or brook.

Now almost every good farmer has a warm barn for his cattle, and water in his yard, or some other convenient place.

In a well adapted barn, much *time* is saved in feeding and

watering the cattle ; besides, the more comfortably they are kept the better they will thrive, and the cows will give much more milk.

Among other improvements of the present day are barn cellars, which are of great importance, as it not only saves the solid manure from being dried by the wind, and washed by the rain, but the liquids, which are of nearly as much value as the solid parts, can be mostly saved by applying muck or some other material by which it can be absorbed and applied to the land.

Also a portion of the cellars may be used for roots, vegetables or other purposes, such as circumstances and location will permit and the wants of the owner require.

Another consideration in favor of barn cellars is, it costs little or nothing to keep them in repair. The roof of a building is not only expensive but soon goes to decay, therefore it seems desirable and economical to have as much available space under the same roof as possible.

About thirty-five or forty years ago, the Hon. Moses Newell of West Newbury, built a large barn, with a cellar under it, for which he received a premium or gratuity from the Essex Agricultural Society. It was then considered a model barn.

Since that time, most of the barns which have been built in the county are nearly on the same plan ; floor lengthwise the barn, stalls for cattle and horses on one side, and hay on the other, with cellar under and such other arrangements as circumstances seem to require and the opinion of the owner to dictate.

There have been four applications for premium,—Horace C. Ware of Salem, John Day, jr., of Boxford, Eldred S. Parker and Thomas Balch of Groveland.

The barns of Mr. Parker and Mr. Balch are in common form, with cellars under, cattle fed from the floor. The fixtures in and around the barns are very convenient, showing a good degree of thought and wisdom in the arrangement.

Mr. Day's barn, as will be seen from his statement, is

entirely different, being two stories above the cellar, which in the opinion of the Committee is a very judicious arrangement, as it is economical and convenient, affording a large amount of additional room under the same roof. In addition to having water in his yard, as most farmers have, he has water in his barn for his horses and cattle, having a trough on wheels that can be moved along before his cattle with little trouble, which, in cold stormy weather, must be very convenient.

Another arrangement the Committee thought favorably of is doors at the end of the cattle stalls, sufficiently large to admit a cart for the purpose of carrying muck or other material to drop through the scuttles to make manure. His barn is also well ventilated, which is an important consideration, particularly the cattle stalls. Further information may be had from Mr. Day's description. If that is not sufficient, view it personally and no one it may be presumed will regret his trouble.

One thing, however, should be named. Mr. Day's situation was favorably adapted for building such a barn, there being a hollow between two small knolls or elevations which every location does not afford, consequently every person who would desire it, has not the location to build such a barn conveniently.

Mr. Ware's buildings are nearly all new, he having unfortunately lost his former buildings by fire. The stable and other buildings near the house are very convenient and well adapted to the purpose for which they were designed.

The barn, as will appear from Mr. Ware's statement, is on an entirely different plan from those above described. The floorway is on one side of the barn lengthwise, with a wing for the cattle stalls. Other arrangements in and around the barn convenient.

Mr. Ware's barn is built on nearly the same plan as those in New York, recommended by a committee where several premiums were offered, one of which was $150. They recommended a wing for cattle, horses and sheep, on either side. Such barns, in the opinion of your committee, are more expen-

sive than those in common form, and it must also be more inconvenient feeding cattle, as the hay must be carried a great distance, either on wheels (as recommended by the editor of the American Agriculturist) or some other way.

The reasons for building on that plan are supposed to be, to prevent the breath and moisture of the cattle from coming in contact with the hay.

One of your Committee, more than thirty years ago, built a barn 84 by 40 feet, (with cellar under,) with stalls on one side the floor for cattle, which have usually been occupied. The barn is tolerably tight and warm, and very little or no inconvenience has been received from moisture to the hay, or unpleasant odor from the cellar. Other barns in the vicinity, differently located, where large numbers of milk cows are kept, and nearly all the time in the barn in cold weather, have received inconvenience from moisture.

Therefore, the conclusion of your committee is that no definite plan can be recommended which will apply to all circumstances and locations.

Every person wishing to build a barn should first determine how much room he wants, and for what purpose it is to be occupied; then should examine the best barns in the vicinity and adopt the plan best suited to his location.

Your Committee would recommend that $15 be paid to John Day, Jr., of Boxford, and $10 to Horace C. Ware, of Salem.

JOSEPH HOW, E. G. KELLEY, Committee.

STATEMENT OF JOHN DAY, JR.

Having presented to your notice, for inspection and premium, my farm buildings, I hereby submit the following description of them. My carriage house and granary is situated on the southeast side of a hill, making it convenient

to drive into the basement and the first story. The building is 33 feet square, with a flat roof, covered with mastic roofing. The basement is 8 feet deep, and is used for sawing and storing wood. There is also a small store room. The first floor is 8 feet high, and is used to keep carriages and farm implements in. The upper story is also 8 feet high and is used for granary. On the west and north sides are bins for corn, 3½ feet deep, set out 4 inches from the sides of the building. There are also three doors on each of these sides that can be opened to admit the sun and air to thoroughly dry the corn. The flat roof I find very convenient for spreading fruit to dry. The outside of the building is finished with planed and matched boards, painted. This building is connected with the house by a covered passage, 3½ feet wide, 50 feet long.

The barn is situated northwest of the granary. It faces the south. It is 100 feet 9 inches long, 40 feet wide, 26 feet posts. The cellar is 9 feet deep, the bottom paved with small stones. 88 feet of the cellar is used for manure, and to keep swine. In the east end is a room 12 feet wide, with cement floor, which I used to store vegetables in. On the first floor I have tie-ups to accommodate 41 head of cattle, which occupies 72 feet of the length of the barn. The tie-ups are 13 feet 4 inches wide, and the floor between them is the same width. The height of the tie-ups is 7 feet, and the floor is 8 feet high. 24 feet of the south side is used for horse stalls and harness room. On the north side, is a meal room and a spare stall. Between the meal room and stall is the passage to carry the swill to the cellar for the swine. On the east and west ends are wide doors, that will admit a cart and oxen, for the purpose of carrying in muck, etc., to put into the cellar below. This story is ventilated by four conductors, (two opposite each other,) 16 inches square, running up back of the bays, then following the roof uniting in a common ventilator on the top of the building. In the second story there is a bay on either side, 100 feet long, 13½ feet wide. The posts on the back side are 19 feet high. In the middle is a floor way,

13 feet wide, with a scuttle in each band to drop the hay to the story below. There are also places to conduct the hay to the horses' cribs. In the second band from the west end I have put in Fairbanks' Hay Scales, which are very convenient to weigh stock, hay, etc. The third band from each end is dropped down three feet from the beams, to make it easier to fill from the floor. The bays are ventilated on the back of the hay by swivel blinds, placed at the bottom of the bay, which can be opened or closed at will. There are also slats running from the bottom up to the top, insides the timbers, to give a free passage of air behind the hay. The entrance to this story from the ground is over a bridge at either end, 22 feet long 14 feet wide. Over the middle floor, on the posts, is laid a tight floor, 13 feet wide. On either side of this floor is an open floor, 13½ feet wide, for storing corn fodder. It is laid with plank eight inches wide, eight inches apart, laid loose, so they can be slipped back when the bays are filled with hay. There are stairs leading from the first story to the cupola on the top of the building. The outside of the barn is boarded, clapboarded and painted, and the roof shingled. It is lighted by eight windows on each side, and two in either end. There are lights over the large doors in the second story.

In the basement there are eight lights on the north side. On the south side are large doors, which are kept open in summer and closed in winter. The barn is supplied with pure spring water (from the hill, 1500 feet west of the barn,) by an aqueduct. It is carried into the first story and the two yards. The yard on the south side is 90 feet square. On the west side is another yard, 100 feet long, 40 feet wide. 25 feet of this yard is covered, forming a shed on the northwest corner of the barn. In the southwest corner of the large yard is a building 33 feet square. The lower story is used for a hennery, the next story to store farm implements and the upper part of the building I use to store and manufacture cider vinegar.

Boxford, October, 1866.

STATEMENT OF HORACE C. WARE.

I here give you a statement and plan of my barn and out-buildings as near as I can. The lumber I contracted for in the state of Maine last winter, and let out the most of the labor by contract, and in reckoning up I find my large barn, 80 by 40 feet, with leanto for cattle attached, 32 by 60 feet, to cost about $3,250.00, including the cellar, without any account of my own labor. I have ventilators on both barn and leanto, with slated roof; cellar under the entire building about 10 feet deep, giving ample room to drive in and tip up a cart. Under the leanto is ample room for the making of manure. Under the main barn is room for a vegetable cellar, and for carts and wagons; also open to the cow yard, which faces the south, where there is a never failing supply of water running.

Nearly opposite the barn is a building which I built ten years ago at a cost of $325, when building material was much lower than now. This building is 35 by 22 feet, built on a side hill, the upper, as well as the lower part, being level with the ground, and is used for the storage of ploughs, sleighs, mowing machines, barrels, harrows, gates in winter, and sometimes for wagons. Under it is room for carts and wagons.

My other out-building near the house consist of a stable for horses, 25 by 20 feet, with cellar under it for hogs and manure. Attached to the stable is a one-story building, about 100 feet long, and used for three open sheds, wood-house, carriage house, work shop, tool room for farm implements, privy; and wash-room, where I have a boiler and sink set, with water running when desired. Under the wash-room is a cellar for the storage of wash-tubs, and also for cooling of the milk before it goes to market, as there is running water in this cellar. The carriage house, work shop and tool room, set on posts at back part, facing the south, which makes a fine warm hennery to keep my hens in at seasons when I don't want them at large. The cost of this string of buildings is about $1000.

My house is not yet completed, and is larger than is neces-

sary for a farm house, yet that part which is required for farm use is very convenient and not expensive for the times, the lower flower having kitchen, dining room, and men's sleeping room, with ample closets in each room, and water in kitchen.

Salem, October, 1866.

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MANURES.

The Committee on Manures report:

The statements which have been submitted to them, and which are appended hereto, relate entirely to artificial manures, and of course confine the attention of the committee to these fertilizers alone.

The question of the value of all condensed, artificial and strictly chemical fertilizers is one which has occupied the attention of all who are devoted to modern agriculture. In former days every form of putrescence, all stercoraceous matter, all decomposed vegetable matter, earthy compounds found in natural deposits, were used as manure, and were the means of conducting all experiments, and the subjects of every essay on the principles and processes of fertilization. The distinguished founder of this society, in all his careful investigations, never advanced beyond a consideration of "that precious liquor," as he called it, which flows through the drainage of our stables, or is absorbed by the materials which make up our heaps of composted manure. Since his day we have advanced into the regions of science, and not content with the farmyard, we have called upon chemistry to furnish us with those substances which, from their portable form, and their specific properties, promise to make fertilization an easy process, and a well defined and positive art.

The introduction of guano into the list of fertilizers has undoubtedly done much to excite the endeavors of those who would imitate this highly stimulating manure; and the ingenuity of man has been exhausted in endeavoring to supply the farmer with homeopathic remedies for the diseases and weaknesses of his soil. Phosphates, chlorides, ammonia, nitrogen, all salts and all gases, have been produced in every form simple and compound, to tempt the farmer away from his manure heap, or to supply the place of such a heap, when its production was an impossibility. That much benefit has been derived from this there can be no doubt. The worn-out lands of some portions of our own country, and the highly cultivated lands of Great Britain, have undoubtedly derived great advantages from guano, bones, the phosphates, and other condensed forms of manures. The precise nature of the benefit of each one of these substances should be carefully investigated by the best experiments. The farmer should be enabled, in some way, to know precisely what he may expect from an investment in the expensive fertilizers so freely offered him—whether it will be of temporary or permanent value, and whether of any value at all.

While your committee present the recorded experience of some of the best farmers in the county, in the use of some of the condensed fertilizers of the day, they would urge the continuation of these trials upon the remainder of the list. Facts ascertained with regard to bone separated by mechanical process alone, and without any increased solubility by chemical combination, may not be ascertained with regard to guano or the superphosphates. It is important that the subject should be thoroughly investigated—especially when we remember that the good cultivator always returns to a well prepared manure heap, the product of his stable and farm yard, with a confidence which chemistry and the guano islands have not yet shaken.

In conclusion, your committee would earnestly recommend the continuance of experiments with bones as a fertilizer. Of

their value too much cannot be said. When properly introduced into the soil they take the highest rank among fertilizing agents, and have never failed to answer the expectations of the cultivator, *when properly prepared and used.* The dissolving of bones in sulphuric acid has long been known as a most valuable mode of preparing them. More recent experiments with ashes and caustic lime seem to have resulted well. And it remains to be proved how far mechanical solution will take the place of these chemical processes. We most ardently hope that every effort now going on in the county to provide us with bones for manure will be continued and improved upon, until we have a good supply of this manure, prepared in the best manner.

GEO. B. LORING, Chairman.

STATEMENT OF WM. R. PUTNAM.

To the Committee on Manures:

By the request of the secretary I send for your information the result of a small experiment in the use of bone manure. It was made without any intention of making it public, but simply to satisfy myself which was the best bone manure, made at the different mills in the county.

The soil where the corn was planted is a good loam. It had been in grass for six years. It was ploughed in November, 1865, about seven inches deep. It was well worked with the harrow and cultivator the last of April. The first week in May it was planted; the same kind of seed was used on the whole lot of about two acres.

Lot No. 1 was manured from bone meal from Breed's Mill in Lynn, the cost of which was three cents per lb., and was applied at the rate of 500 lbs. per acre. The hills were three and a half feet apart each way; the bone was mixed partially with the soil.

Lot No. 2 was manured with the flour of bone from Wal-

ton's mill in Salem, the cost of which was three cents per lb., and the same quantity applied as in No. 1.

On lot No. 3 I put the same quantity of bone from Day's Mill in West Boxford, costing four cents per lb.

Lot No. 4 was manured with compost manure at the rate of six cords to the acre, spread on and partly covered with a small plough. I estimated the manure worth $10 per cord when put on.

Lot No. 5 was manured the same as No. 4, with the addition of a small quantity of bone put in the hill; each lot contained 512 hills one about one-ninth of an acre, and the land is nearly level and of uniform quality. It all received the same care and cultivation during the season.

No. 1 produced 11 3-4 bushels of ears of good sound corn, and 5 1-2 bushels poor corn—total, 17 1-4 bushels.
No. 2, 10 bushels good, 5 1-2 poor—total, 15 1-2 bushels.
No. 3, 8 bushels good, 6 poor—total, 14 bushels.
No. 4, 17 1-2 bushels good, 2 poor—total, 19 1-2 bushels.
No. 5, 18 1-2 bushels good, 1 3-4 poor—total, 20 1-4 bushels.

From the above it will be seen that the cost of the manure for No. 1 was $15 per acre, and the yield was at the rate of 40 bushels of shelled corn per acre, without the poor corn.

No. 2, cost of manure, $15 per acre, 35 bushels corn.
No. 3, cost of manure, $20 per acre, 28 bushels corn.
No. 4, cost of manure, $70 per acre, 62 bushels corn.
No. 5, cost of manure, $76 per acre, 65 bushels corn.

It will be seen from the above that manure for a bushel of corn cost on No. 1, 37 1-2 cents; No. 2, 40 1-2 cents; No. 3, 67 1-2 cents; No. 4, $1.10; No. 5, $1.10 1-2.

Perhaps I should have stated more particularly the kind of bone used. Mr. Breed's, as he informed me, was the raw bone crushed in a quartz mill.

Mr. Walton's was made from bones that had been used at the Lowell Print Works, and all the gelatine extracted.

Mr. Day's had been steamed to extract the gelatine.

STATEMENT OF DAVID CHOATE.

Statement of experiments made with Bone Flour, manufactured by the Boston Milling and Manufacturing Company.

As requested by the Trustees at their late meeting, I submit the following statement:

I received one barrel of the Flour of Bone, manufactured as above, on the 15th of May last; and on the 19th, and again on the 23d, I applied it to Indian corn as follows, viz.: — premising, however, that the whole field had been manured uniformly from the barnyard, the manure having been spread and harrowed in. I took six rows, each 36 hills in length; and upon the first two, which I call lot No. 1, I applied one-third of a pint to each hill. The corn in all six of the rows was just coming up.

The two middle rows (say No. 2) had no bone at all. Upon the remaining two rows, No. 3, everything being equal as before, except that it was four days later, I applied one-sixth of a pint to each hill, just half the amount put in the case of No. 1. The quantity applied to No. 1, was at the rate, very nearly, of 17 bushels per acre. of 3240 hills; and upon No. 3 just half that amount, or more exactly, 8.43 bushels per acre.

The mode of cultivation through the season was the same in all six of the rows.

The crop was harvested on the 29th of October. I should have added, that no one, whose attention was called to the experiment, could satisfy himself that the bone flour either hastened or retarded the growth or maturity of the crop in any degree whatever.

The weight of the corn was as follows:

In rows, No. 1, with 17 bush. bone to the acre, 109½ pounds.
No. 2, with no bone, 98¾ "
No. 3, with 8.43 bush. bone to the acre, 100¼ "

The above result would give, to the acre of 3240 hills, as follows, viz:

No. 1,	4927 pounds.
No. 2,	4443 "
No. 3,	4511 "

What precise amount of shelled corn this weight of ears would give, I have not determined; it was, however, quite unripe, and unfit for shelling or use.

The difference in favor of the bone in the case of No. 1, there being 17 bushels of bone to the acre, is 484 pounds of corn in the ear, more than where *no bone was used*, and 416 pounds more than where *half the quantity* was used.

Suppose 70 pounds of corn in the ear, in the state which I found it in at harvest, to make a bushel of shelled corn, then an acre, using 17 bushels of bone, would produce 6 6-7 bushels of corn *more than where no bone was used;* and an acre with 8.43 bushels of bone would yield 5 7-7 bushels of corn more than where none was used; and what increases the perplexity, 17 bushels of bone to the acre produces only one bushel of corn per acre more than half that quantity does.

Now for the cost. A bushel of bone flour will weigh, I believe, 76 pounds, and 17 bushels at three cents per pound will cost $38.76; so that 6 6-7 bushels of corn will cost *that sum*, viz: $38.76. For *transportation from Boston*, it will be perceived, I have reckoned nothing, though 50 cents would be, I think, the true expense.

BONE FLOUR UPON ENGLISH GRASS.

One square rod with bone, at the rate of 18 bushels per acre, yielded 69¾ pounds of grass cut and immediately weighed, July 9th. The adjoining rod, *without* bone, cut and weighed on the same day, weighed 73½ pounds.

The same experiment was made on lower land, some eight to ten rods distant, and cut July 27th. The rod with bone, as before, yielded 33 pounds; the adjoining rod, without bone, yielded 36 pounds.

The bone had been applied in both these cases, as I think, on the 28th of May, and I selected lots for the experiment, where no difference was perceptible in the height or thickness of the grass.

ON BARLEY.

One rod with the bone, 18 bushels to the acre, weighed 20¾ pounds; the adjoining rod, with no bone, 30¼ pounds.

The barley was ripe and was cut and weighed, with the straw, on the 26th of July. I find I have lost the date of applying the bone to both the barley and grass, but believe to have been, as above, on 28th of May.

ON POTATOES.

25 bushels of bone meal was applied to the acre on the 6th of June, being one half a pint to the hill. I ought to say that in the case of both corn and potatoes the soil was removed from the plant with the hoe, the bone then applied and covered. The potatoes were dug in my absence, and not *weighed* but *measured*—fifteen hills *with bone* yielding three-fourths of a peck more than the adjoining row without. This is equal to 40 bushels per acre—the 25 bushels of bone costing, however, $57.00.

ON ONIONS.

Flour of bone was used at the rate of 39 bushels per acre, hoed in by the side of the row just as the onions were breaking ground. These, also, were harvested in my absence, but *as no difference was perceptible*, they were neither measured nor weighed.

ON CARROTS.

Bone applied, 39 bushels to the acre, and in the same manner as to the onions. The yield was 29½ tons per acre with bone, and 23 1-5 tons without bone. Difference 6 3-10 tons. At $10 per ton the produce in the first case, per acre, would

be $295.00; without bone, $232.00; cost of 39 bushels of the bone, $88.92; thus the 6 3-10 tons excess, with bone, cost this sum, $88.92.

An answer to all this may be urged, viz :—that a *part*, perhaps a *larger part*, of the strength of the bone will be available next year, and perhaps for a still greater length of time. I hope it will prove so, but where I used it last year, I am unable to perceive any manifest traces of it.

On the whole, the *results*, so far as my experience goes at present, are as astounding as they are painful and unaccountable. Last year I was led to think and say the bone had done nobly for *onions*, but I now strongly suspect I was deceived, and attributed an apparent result to a wrong cause.

Were this the time and place for argument, I should urge the importance of an *analysis of the soil*, as well as of the stimulant to be applied to it, lest it should appear that it was as well supplied with a given element as *the prepared manure itself*, and a consequent failure should be inevitable. But the field is as limitless as it is important, and I leave it to abler hands.

STATEMENT OF CHARLES P. PRESTON.

To the Committee on Manures:

Having heard from persons whom I supposed to be good authority, that is, those who had experimented with *bone* as a *manure*, that it was a very valuable fertilizer, for corn, as well as other crops, and having also the opinion, that our soils are generally deficient in *phosphates*, I bought last spring five barrels of bone manure—four of Day's manufacture, and one from the firm of Devereux & Co., Boston.

I applied it at the rate of 300 pounds per acre to two acres of corn land, first having spread 10 ox cart loads of good barn manure to the acre on the green sward and turned it

under to the depth of six inches; the bone being applied in the hill, and mixed with the soil as much as practicable.

The corn came well, but (with the exception of some places where manure heaps had formerly been put,) it grew generally very slowly indeed, and some hills not at all. The worms destroyed some plants, and other plants, which were not molested by them, seemed to die out for the want of nutriment to keep them alive, so that the vacant hills were quite plenty and were filled by planting white beans.

On a small portion of the field no bone manure was applied, and no appreciable difference marked the crop on this portion. On another part unleached ashes, at the rate of 25 bushels per acre, was applied in the hill at the time of planting, without bone. Here, I think, nearly double the quantity of corn grew, it having started very well in the spring and continued a good growth through the season. On another small portion, "Gould's Muriate of Lime," at the rate of 600 pounds to the acre, was put in, on which the crop produced was about the same in amount as on the other parts of the field to which an application of bone was made.

In this trial I could perceive no difference between "Day's Bone Manure" and the "Flour of Bone" procured in Boston.

I planted another lot of one acre; one-half with corn and the other with potatoes, having ploughed the sward under to the depth of seven inches and spread and harrowed in about four cords of compost per acre. I used Day's bone manure at the rate of 500 pounds per acre in the hill for corn, and in drill for potatoes, leaving a row in each lot in which none was applied. I had a fair crop of corn and potatoes, but could discover no *inferiority* in the crop by measure, from the rows in which *no* bone was applied, as compared with the remainder of the lot.

The result of these trials satisfies me that I *cannot* afford to buy bone manure for these crops; as you will perceive it failed entirely to start the corn earlier and more vigorously than it would have done without its aid, and I failed to dis-

cover that it was at all beneficial in promoting its later growth, as it did not seem to make much progress till the roots reached the sward and manure which was turned under, when that which had survived the difficulty of living through the first one or two months without support, started into a vigorous growth and produced a very fair crop, though too late to ripen so *perfectly* as is desirable. I think, judging from that portion of the field to which ashes was applied, that, if applied to the whole, it would have increased the product at least fifteen bushels to the acre.

What benefit the land may derive from the bone hereafter, I cannot, of course, predict; but think I can safely say that farmers, in these times of low prices for produce and high rates for manure and labor, cannot afford to wait *many* years for a favorable result; and very few failing to perceive such result from the application of a costly manure one season, could be induced to apply the same the next.

STATEMENT OF FRANCIS P. PUTNAM.

Last April I purchased 500 pounds of Day's bone meal, for $20, beside freight. I was told it was much cheaper than stable manure, to say nothing of the labor saved in carting. Thought best to try it in different ways to see if it was equal to what Mr. Day and friends recommended. The first piece to which it was applied was sandy loam sward land, ploughed in the fall of 1865; a coat of about five cords of compost manure to the acre spread on the surface and well worked in with harrow and cultivator; then furrowed three and one-half feet apart one way, one gill of bone meal put in the hills; two and one-half feet the other way, and stirred in with the soil on one-half the piece; nothing in the hills on the rest of the piece; the whole was then planted with potatoes on the 8th of May. I could see no benefit at all from the bone in the

growing crop, and the yield of potatoes was no more where the meal was used than where it was not. Yield about 180 bushels per acre.

Second piece. The land was similar and adjoining the first; no manure spread; the bone meal put in the hills in nearly the same quantity; the hills about three and one-half feet apart each way. Planted it with corn on the 10th of May; it came up well but failed to grow, except one strip about a rod wide, on which dry wood ashes were spread the spring before. This strip produced pretty fair corn.

Third. Ploughed the ground, on which the grass was mostly killed out, July 25th; harrowed and furrowed, and put compost in all the rows except one—in that put pond muck, mixed with half a bushel of bone meal. The rows were nearly eight rods long. Planted it with round turnips. The produce of the row where the bone meal was put was about the same as the others. I cannot see as yet that I have received the least benefit from the bone meal thus applied.

TREADWELL FARM.

At a meeting of the Committee on the Treadwell Farm, held last March, it was voted that the care of the farm should be delegated to a Sub-Committe for one year, and also to lease it, according to the following terms:

Time, seven years from April 1st, 1866; rent two hundred and fifty dollars per annum; to apply to the land each year, at least fifty cords of good merchantable manure and two hundred loads of muck; to keep all fences in good repair, and cultivate the farm in all respects in a good, husband-like manner; reserving to the Society full right and power to enter upon the premises at all times by themselves, or by a

Committee by them appointed, to make all necessary repairs upon the buildings and to view the farm; also, to have the use of one room in the dwelling house for meetings of Society or Committees.

The Sub-Committee have been pleased with the result of the application to the farm of more than sixty cords of good manure, for a better seven acre field of corn is very seldom seen in this county than we saw there; also an acre of carrots, that promised a good yield; all grown upon the plain land that has previously appeared so barren, proving that, with high culture, corn and carrots may be successfully and easily raised upon that peculiar quality of land. The potatoes planted upon the same produced but a small crop, owing either to the kind of manure used (i. e., slaughter manure,) or the quality of the land. Future experiments will probably solve the question.

The appearance of the grass land adjoining the cornfield, and of a similar kind, indicated a very small crop indeed — hardly worth mowing. Some other parts of the farm yielded a better crop of hay, but a small one generally.

Various kinds of vegetables, such as rutabagas, cabbages, squashes, etc., have been also grown upon the farm this season, with fair success.

But the Committee wish particularly to call the attention of the Society to the fact that excellent crops of corn and carrots can be raised upon that plain land by good cultivation, and with less labor than is usually required.

BENJ. P. WARE, for the Committee.

REPORT ON THE LIBRARY.

The Standing Committee, chosen at a meeting of the Trus-

tees, to whom was committed the Report of the year previous on the condition of the Library, *with particular reference to the better accommodation of the Books*, have attended to the business, and would respectfully *Report:*

That being unable to obtain for the present any better accommodation than we now have, and as the Athenæum intends to erect a gallery over the southern room for the better accommodation of the Essex Agricultural Society's Books, as well as for the Medical Society's Library, your Committee would suggest that the books remain, for the present, as they are.

J. M. Ives, James Kimball, F. Poole, Committee.

CRANBERRIES.

The Committee on the Culture of Cranberries, to whom was referred the statement of Mr. Gilbert Conant, of Ipswich, regarding the experiment of Mr. Conant as judicious, economical and successful, recommend that his statement be published, and that he receive a premium of $10.

JAMES H. DUNCAN, Chairman of Committee.

STATEMENT OF GILBERT CONANT.

The following is a statement of my method and success in the cultivation of the cranberry, for which I make application for a premium. In the summer of 1861 I prepared about an acre of meadow, by cutting a ditch to drain it, and in the fall I ploughed it from four to six inches deep, according to the height of different parts of the meadow. Since then I have flowed it annually about the first of November, and let the water off about the first of May.

The first summer after preparing the meadow as stated, vines sprang up and grew considerably on the lowest parts of it. The second summer the vines increased and grew rapidly. In the fall of that year I gathered about a half bushel of cranberries. In 1864 the vines blossomed full, and after the berries were set, gave promise of a fine crop; but an early frost, while they were quite green, injured them so that I gathered but about a bushel.

In 1865 the vines had increased in some spots on the meadow, so that they had almost killed out the grass, and in the fall, when the berries were ripe, they lay so thick that the vines were scarcely visible. I gathered twenty bushels of cranberries, worth three and a half dollars per bushel. The expense of gathering and marketing these berries was less than ten dollars. This year there are but very few cranberries in this section of country, though my vines are bearing better than I have seen any others on fresh meadow. The crop is not yet gathered, but your Committee can see it on the vines.

The expense of draining this meadow was nothing. The peat taken from the ditch paid the expense. It cost me but $5 to flow it. This was done by a small flood-gate at the bridge. I spread upon the ice in the winter of 1863 two loads of yellow sand, which cost but $2.50, making the whole amount that it has cost me to prepare the meadow, but $7.50. I would here state that the vines on the spot upon which the sand was spread were far more prolific last year than any other vines upon the meadow.

I have had experience in preparing several other pieces of meadow in the same manner, for the cultivation of the cranberry, and in every case have been successful. I neither plant vines nor sow the seed. Whenever any meadow adapted to the cultivation of the cranberry is prepared in the manner that I have prepared mine, vines will spring up and bear spontaneously.

One thing more I will state. This meadow was owned by

my grandfather and then by my father, and from him I inherited it — consequently I have known it from my earliest recollection, and I do not think that in all that time a bushel of cranberries has grown upon it before the year 1861, when I first prepared it for the cultivation of the cranberry.

Last year there were but few small spots upon the meadow where the vines were sufficiently matured to produce berries.

TRIBUTE TO COL. DANIEL ADAMS.

Remarks of Hon. David Choate, and resolutions adopted by the Trustees, on the death of Col. Daniel Adams.

It is well known that an Ex-President of our Society, Col. Daniel Adams, of Newbury, has deceased since our last annual meeting.

To recognize the services and review the lives of the founders and distinguished men of our Society, after all that is mortal of them has passed away, is a duty we owe alike to the living and the dead. Shall we not therefore arrest our business matters for a moment this morning, and listen to the voice of that Providence which has so recently "broken the strong staff and the beautiful rod?"

A chair, rarely, if ever vacant at a meeting of this Board, is to-day a *vacant chair*. That voice, and those words of wisdom which we have been so accustomed to hear, and which we delighted to hear, coming from Col. Daniel Adams, we shall hear no more forever.

Our meeting comes late for this duty, for the Press has long since forestalled any action or resolution of ours, and public opinion was even in advance of the Press. The funeral eulogy has been pronounced, the solemn procession has moved,

and presently the sculptured monument will lift up its front, proud to perpetuate the name of Adams; all salutary and consolatory to the living, though to HIM, how vain and unavailing!

Mr. President, due honors to the *founders* of an institution are important, because, in the language of the great Webster, they give hope that the institution itself will prove to be immortal. We mourn this day, and we cannot help mourning, the decease of one who had identified himself with our whole history — one who may be said, I believe, to have assisted at its very birth, forty-nine years ago — one who rocked its cradle, if you please, and almost carried it in his arms. We do not, we cannot forget such a man, and it will be my happiness, with your permission, to attempt to lay one sprig of laurel upon his grave to-day.

In making a brief review of the connection of Col. Adams with the Society and Board of Trustees, it must be said that our early records, though generally full and ample, are not quite so explicit upon some points as we could now wish; and it does not appear from them, either that Col. Adams *was*, or *was not* present at the first meeting for organization, on the 16th of February, 1818. His name, says our vigilant Secretary, first appears in 1820, as one of a committee for raising funds. He was first elected *trustee* in February, 1822. In 1828 he was one of a committee "chosen to procure and to present to Hon. Timothy Pickering, a medal with proper emblems, expressive of the high estimation in which the Society held his services as President, on his retirement from the office."

He was elected President in 1858 and 1859. The infrequency with which his name appears in our Transactions as a contributor to its pages, is in perfect keeping with the fact that his tastes and his activities were more consonant with *field* and *out-door* movements — a department of vast importance, and yet one not always easy to fill. In this department, whether at the ploughing match proper, or

at the trial of working oxen, or elsewhere at the trial of farm implements, but especially the former, he was in some sense our *spokesman*.

Whenever and wherever *off-hand utterances* were necessary, and wherever lightning rapidity in deciding and acting was necessary, there was Col. Adams always, and there he sometimes seemed himself, almost a host. If the gifted editor of the Newburyport Herald can say, as he does, in an article of elegant, discriminating eulogy, that to him, Col. Adams "always seemed to be more than one-half of a Newbury town meeting," shall not many of us concede that on some occasions he seemed himself almost one-half of the whole show on our gala days?

Though of an *ardent temperament*, Col. Adams could not be said to be *fitful* or *spasmodic* in any degree. On the contrary, he was firm, persevering and consistent with himself. When his purposes were once formed, he was almost as immovable as a rock. While, however, he was frank, bold and intrepid in defending the constitution and the by-laws of the Society, yet was he *cautious* in providing against obstacles that might at some future time create embarrassment.

Is it not remarkable that, taking as he did a leading part in all the operations of the Society and the Board for near *fifty years*, his measures, sometimes prevailing and sometimes being overthrown — I say, is it not remarkable that he was uniformly successful in commending himself to the members as a man of *capital good nature and capital good sense, of far-reaching sagacity, and what is more, of incorruptible integrity!* You knew him, Mr. President, longer and better than I did; but did we not all see, from his deportment, his general bearing and his temper, that while there was sometimes a flavor of *salt*, yet there was no *bitterness* in him at all; no malice lived long, or could live in that large heart; nothing, I may say, but kind feelings beamed from his benevolent eye. Take him, in short, for all in all, one is almost ready to ask, when shall we look upon his like again?

I do not forget that his pretensions to *education*, in its common acceptation, were small. The common school and his favorite Dummer afforded all the advantages which the pressing occupations of his father's farm would allow him to embrace. Like many others of our distinguished men, he was self-taught and was the architect of his own fame.

I have left myself room to speak of but one trait more in the character of our departed friend. That one trait, however, was the only one he could carry with him as he went over the "rolling river." His earthly honors he had done with, having deposited them where envy could not tarnish them — "where malice could not blast them." But *now*, as the life of the Christian had been his life, so the death of the Christian, we feel assured, was his death. During his last year, it was but too evident that the grasshopper was becoming a burden, and that he would soon go to his long home, and the mourners would go about the streets; but during this year's decay, and while "the keepers of the house were trembling," the traits of the Christian character developed themselves more and more, till his vision, it is believed, was swallowed up in fruition. He died on the 16th of October, and now rests from his labors, and his works follow him.

I would respectfully move the Board to adopt the following resolutions:

"*Resolved*, That in the death of Col. Daniel Adams this Board is called to mourn the loss of one of its earliest friends and brightest ornaments, and that we shall ever retain a lively recollection of his many virtues and his active labors for the promotion of the cause of Agriculture.

"*Resolved*, That we tender our sympathies to the relatives and friends of Col. Adams on the loss, which both they and we have sustained in this bereavement.

"*Resolved*, That the Secretary be requested to forward a copy of these resolutions to the family and friends of the deceased."

BREAD, AND BREAD MAKING.

BY JAMES R. NICHOLS, M. D.

The remarks made by a Committee on Bread, at the Society's Exhibition in 1863, are eminently proper and just. They remark "that they can see no benefit to be derived from an exhibition of bread, unless those who are so unfortunate as to be lacking in skill 'can go and do likewise.' They can look at the beautiful loaves on exhibition, and, with a sigh, express the wish to know how to make such bread; but the information has not been given by the exhibitors. We suggest that, hereafter, all entries of bread shall be accompanied by a statement describing the process of mixing, kneading, baking, etc."

A premium having been awarded to bread made in my family, at the last exhibition of the Society, I am induced by the expressed wishes of many, to make a statement in relation to the methods of its production, and also to present some general observations upon bread, and the science of bread making.

As regards the show of bread at the exhibition, it was indeed not of a character such as we could wish it to be. The number of loaves upon the tables was unusually large, and among them were many specimens of a quite imperfect character, being heavy, doughy, and some had passed into the acetic fermentation stage and become sour.

It is presumed that in preparing bread for exhibition and premium, the makers do their best in its production, and that

a display of the kind may fairly represent the best skill in this department of household labor.

Regarded in this light, the conclusion is reached that very many families have hardly yet learned what good bread is, and that there is a wide margin for improvements in the methods of bread making. No subject is certainly more important, as it has a direct bearing upon the health and consequent happiness of households, and it should receive the attention which it deserves.

Besides the manipulating processes, the manufacture of good bread involves some other considerations of no secondary importance. It is useless to attempt its production with imperfect or bad materials. The flour or meal must be sweet and from fully matured grain. During the past two years the market has been crowded with flour of a damaged character. The severe rains and long-continued moist weather at the South and West, were unfavorable for securing the grain crops, and much of it germinated in the fields and barns and was thereby rendered unfit for bread making. In the germinating process, diastase is formed; this reacting upon the starch of the flour in the baking, transforms it into dextrine and sugar, and prevents the formation of light, spongy bread. Flour from such grain will afford only sticky, glutinous, heavy bread, no matter how much care and skill is bestowed in the making. Fungous growths also appear in wheat injured by moisture, and the flour becomes "musty." In bread from such materials, beside its repulsive physical appearance and unpleasant taste, a chemical change has occurred which renders it positively injurious as an article of diet. The nutritive properties, the gluten, especially, has undergone decomposition and new bodies have been formed, which are not of an alimentary nature. Impaired digestion, derangements of the bowels follow the use of bread from such flour. The poor, who are unable to pay large prices for choice, selected brands, suffer greatly from this source, and much of the bread they

are compelled to eat is well calculated to weaken rather than sustain the vital functions.

During the most favorable seasons thousands of bushels of wheat are made into flour, which, owing to local causes, delay in harvesting, or storage in large bodies, is rendered entirely unfit to be used as food. A portion of this is employed in the arts, but the great bulk goes into families, and feeble children, as well as adults, are forced to consume it, much to their injury. It is doubtful if anything can be done to abate this evil; the cupidity of men is but little affected by considerations of right, and the thirst for gain is potent and irresistible.

There are several methods of testing wheat flour, which are available to purchasers, although none of them afford positive indications. Good flour is not sensibly *sweet* to the taste, but bad flour often is. This is owing to the presence of glucose, resulting from chemical changes in the grain, by partial malting. Extreme whiteness is a good indication, as changed grain is discolored in the process of change. Good flour is tenacious and unctous to the touch; when thrown against a wall it should adhere and not fall readily. It does not feel *crispy*, and when formed into a ball in the hand, adheres together like a ball of snow. To the sense of smell it is sweet and pleasant, and when taken into the mouth, forms a glutinous mass, free from all disagreeable taste.

The nutritive quality of flour depends upon the proportion of gluten which it contains. In the best specimens 10 or 12 per cent. is found. A barrel of flour contains about 20 pounds of gluten, and 150 of common starch. The starch can easily be washed out of a small quantity of flour by placing it in a bag of cotton cloth and kneading it under a stream of water. The gluten remains upon the cloth and is a gray, viscid, tenacious mass, insoluble in water. It is the strength-giving principle of the flour, and in a three pound loaf of bread there should be at least three ounces of this substance.

Bad bread is by no means always chargeable to imperfect materials. Hundreds of families, who procure and use the

most perfect flour, subsist upon bread of a very inferior quality. Some housekeepers assert that they can have no "luck" in bread making; their loaves are always heavy, or sour, or doughy, or burnt, and they give up experimenting and become discouraged. As with good materials every one can prepare good bread, there should be no want of success.

Success depends in a great measure upon good judgment, faithfulness and patience in working, and in using the right materials. It is quite preposterous to present a fixed recipe and set it up as an infallible guide in this department of household labor. The method adopted in my family, and that by which the specimen exhibited was prepared, is as follows:

Sift five pounds of good flour and put it in an earthen pan suitable for mixing and kneading. Have ready a ferment, or yeast, prepared as follows:

Take two potatoes the size of the fist, boil them, mash and mix with half a pint of boiling water. A fresh yeast cake, of the size common in the market, is dissolved in water, and the two solutions mixed together and put in a warm place to ferment. As soon as it commences to *rise*, or ferment, which requires a longer or shorter time, as the weather is warm or cold, pour it into the flour, and with the addition of a pint each of milk and water, form a dough, and knead for a full half hour. Form the dough at night, and allow it to stand until morning, in a moderately warm place; then mould and put in pans, and let it remain until it has become well raised; then place in a hot oven and bake.

The points needing attention in this process are several. *First*, the flour must be of the best quality; *second*, the potatoes should be sound and mealy; *third*, the yeast cake is to be freshly prepared; *fourth*, the ferment must be in just the right condition; *fifth*, the kneading should be thorough and effective; *sixth*, the raising of the dough must be watched, that it does not proceed too far and set up the acetic fermentation and cause the bread to sour; *seventh*, after the dough is placed in pans it should be allowed to rise, or puff up, before placing

in the oven; *eighth*, the temperature of the oven, and the time consumed in baking, has much to do with the perfection of the process.

If this method is followed with the exercise of good judgment and ordinary skill, white bread of the highest perfection will be uniformly produced.

Unfermented, or "cream of tartar" bread, is never placed upon the table in my family. There are special dietary, or sanitary reasons for its exclusion. All "quick made" bread is usually prepared in haste, and the adjustment of acid and alkali is apt to be imperfect. Not one pound in a hundred of cream of tartar sold in the market is free from adulteration. In ten specimens procured from as many different dealers, in a town of ten thousand inhabitants, I ascertained by analysis that the *least* per centage of adulterating material was twenty-two per cent., and several were over seventy per cent. The "yeast powders" so common in the market are composed of acids in association with alkaline carbonates, usually bi-carbonate of soda. If tartaric acid, or cream of tartar, is used with the soda, there remains in the bread after baking a neutral salt, the tartrate of soda, which is diffused through the loaf and is consumed with it. This salt has aperient properties — in fact is a medicine — and thus at the daily meal, those who use bread made with "powders," or with cream of tartar, are taking food and medicine together.

Some years ago, Prof. Horsford, of Cambridge, proposed substituting phosphoric acid for the tartaric, and this excellent idea has been put into practical effect in the production of yeast powders. In the use of this acid, *phosphate* of soda would remain in the loaf, and as this is made up of the element which we lose in sifting out the bran from the flour, it must prove healthful, or at least unobjectionable. But bread prepared by *effervesing* powders is, at best, a poor substitute for that which results when the dough is raised through the agency of vinous fermentation — regular yeast, in some of its forms, being employed. Effervescents may be used in ex-

igencies, which occasionally occur, but it is hoped that the good housewives in our county do not, in their bread making, habitually depart from the good old way of raising the loaf by panary fermentation.

It was a noticeable fact that no specimens of whole meal, wheaten, or corn bread was offered for exhibition. It is presumed that the premiums of the Society were intended to include these forms of the "staff of life," and it is a matter of regret that none were presented. There is manifestly a perversion of sentiment, or fashion, as regards bread made from the unbolted meal of wheat, which ought to be corrected. Why, upon the tables of farmers, the white flour loaf should usurp the place of the darker, but sweeter and more healthful one from the whole meal, is a question of no little interest and importance. In Essex county but few soil cultivators raise this noble grain in quantities large enough to meet family wants, and it is probable, if the reverse of this were true, the grist would be carried long distances to a mill with a bolt, to separate the fine flour.

If there is any one form of bread more delicious than another, or more conducive to the sustentation of the physical and intellectual powers, it is that from unsifted wheat meal; and every owner of land should include this grain among his crops, that he may have the bread fresh and in its highest perfection. A generous dressing of finely ground bone will put almost any field in condition to grow a profitable crop; and in these days, when Western flour of the better sorts commands such enormous prices, there seems to be no good reason why farmers should not resume the cultivation of wheat in our county.

Corn bread is also excellent and most nutritious. It contains a large amount of oil not found in other grains, which adds greatly to its value. There is far too little of this used in our families. The old-fashioned dish of corn "pudding and milk" is now nearly as obsolete as that of "bean porridge;" and may we not, with much reason, attribute the

physical degeneracy of the present race to the radical changes in the forms of food? Regarding the matter from a chemical and medical point of view, it certainly would be difficult to select better or more healthful forms of human nutriment — forms so well calculated to build up and sustain a "sound mind in a sound body," as the two named above, once so popular, but now banished from our tables. They were easy of digestion and assimilation and contained all the chemical substances, or organic and inorganic constituents needed to nourish the body and mind. Certainly, white flour bread, cake and condiments, are poor substitutes for the sensible, but plain dishes of our fathers and mothers a half century ago.

ESSAY ON THE PRESERVATION OF FRUIT AND THE CONSTRUCTION OF FRUIT HOUSES.

BY ROBERT MANNING, OF SALEM.

Twenty or thirty years ago, when winter pears began to be generally cultivated, much disappointment was experienced by cultivators, who found them hard, green, and tasteless, instead of juicy and delicious, as they had been described. But with the introduction of better varieties, improved cultivation, and the maturity of the trees, under our hot suns their ripening became so accelerated that pears, which should have kept until mid-winter, or later, could not be preserved to the end of December, and the inquiry was—for means to retard, rather than promote their maturity. I need not spend time in arguing the necessity of such means of preservation, especially to those who have found their late pears ripe and gone from one to two months earlier than they had anticipated.

The ripening of fruit is the completion of the chemical process by which starch is transformed into sugar, and is the first step toward decay. Decay is a process of fermentation, and is but the continuation of the ripening process. Whatever promotes fermentation will hasten the ripening and decay of fruit; whatever retards fermentation will tend to its preservation. The conditions necessary to the perfect ripening of fruit on the one hand, and its preservation on the other may be stated as follows:

1st. Unless fruit attains a certain degree of development

upon the tree, the ripening process will not continue after it is separated from the tree. So true is this that when one side of a fruit is fully, and the other only partially developed, the ripening will be confined to the former part, which will be rich, melting, and juicy, while the latter will remain hard, green, and tasteless. This is not unfrequently seen in the Easter Beurre pear.

It is desirable that fruit should remain upon the tree as long as possible without too great risk of injury from hard frosts or by blowing off; but nothing is gained by allowing it to hang after the leaves have fallen, whether from disease or natural ripening. From the first to the middle of October will be found the best time for gathering winter apples and pears here, but on dwarf trees or in sheltered places it may hang longer than on tall standards or in exposed situations. I have kept pears on the tree until the middle of November, but without deriving any advantage from it.

2D. The fruit must be gathered carefully when perfectly dry, and MUST *not be bruised or chafed.* The waxy secretion found on the skins of fruit, especially grapes and plums and less abundantly on apples and pears, is a natural provision for the protection of the skin from the effect of moisture, and therefore the skin should not even be wiped lest the bloom be removed. When the skin is broken by bruising, so that the oxygen of the air comes in contact with the juices of the fruit, fermentation commences immediately, and decay soon extends throughout the fruit.

3D. Fruit must be protected from frost, which is well known to completely disorganize its texture.

4TH. It must be kept from too great a degree of heat, for this is the most powerful agent in promoting fermentation.

5TH. The proper temperature being ascertained it must be kept *uniform.* The expansion and condensation of the juices by variations of temperature, hasten their fermentation instead of permitting it to take place slowly and gradually, as desired. But though it is well known that apples and pears

may be exposed to a temperature a few degrees less than 32°, for a short time, without material injury, it is found that when kept long at a temperature but little above freezing the ripening process is checked to such a degree that it is never perfectly resumed, and experience has shown that a uniform temperature of 40° is as low as is advisable. Fruit may safely be exposed to still air of less than 32° when it would be injured in currents of the same temperature. It seems hardly necessary to say that a thermometer is indispensable in a fruit room.

6TH. Light is one of the strongest stimulants of vegetable growth. Its effect on the skin of the fruit continues, though in a less degree, after it is separated from the tree, and therefore the fruit should be kept as far as possible in total darkness. Not only does it keep better but the flavor and color, both of summer and winter fruit, is better when the light is excluded.

7TH. The atmosphere should be uniformly dry, for moisture is not only necessary to fermentation, but by being condensed on the skin tends to decompose it, and thus render its protection less effectual. This happens to a greater extent in apples and pears with smooth and glossy skins, than on those russetted varieties, whose thick, rough skins are less perfect conductors of heat, which may account for the well-known long-keeping of the russet apples. The moisture produced by condensation from the air must not be confounded with that caused by sweating when the fruit is placed in large masses soon after being gathered. When the air becomes colder than the fruit evaporation takes place, and the surface becomes dry, and these alternations of moisture and dryness, like those of heat and cold, are injurious.

Having determined the conditions necessary to the ripening and preservation of fruit, we have now to apply these principles to the construction of a fruit house. Passing by the costly patented methods which have been tried and condemned, or which, though correct in principle, are not yet

practically tested here, let us consider what may be better adapted to the wants and means of the fruit-growers of Essex county.

Security against frost is the first requisite, for if our fruit ripens prematurely we have only to eat it sooner, but if frozen it is utterly worthless. Where, as in this climate, the mercury sometimes falls to 20 degrees below zero, to afford certain protection against frost the walls should not be less than three feet in thickness, filled with dry tan, sawdust, or other non-conducting material; or they may be made with two walls, each one foot thick, filled with tan, etc., with an air space one foot wide between. The top and bottom should be built in the same way as the sides, and the bottom made impervious to the moisture arising from the earth; or, better to secure this end, the room may be in the second story of a building. The roof may be of the ordinary description. There should be but one entrance with double doors, six inches thick, filled with tan. The window should not be larger than is necessary to admit the light requisite in stowing and examining the fruit. It should be double and protected by an out side shutter constructed like the doors, and both doors and windows should be tightly fitted; or perhaps it would be better to omit the window and use only artificial light, which is less stimulating than sunlight.

Such a house, when once brought to a proper temperature, will, when closed, retain it for a long time, and never can change it suddenly. Moisture arising from the fruit may be removed by means of chloride of calcium, which possesses the property of absorbing twice its weight of water. It may be spread on the floor or in shallow pans, and, when it becomes liquid, can be dried over the fire so as to be fit to use again. The entrance should be through an ante-room, in which the fruit may be sorted and arranged, and if the quantity is large it would be better to divide the house into two or three apartments for the earlier and later ripening fruits.

It is evident that security from frost might be obtained

at much less expense by constructing the fruit room in a cellar. The object of building it above ground is to avoid the warmth and moisture arising from the earth, but I believe that when a cool, dry cellar, on the north side of a building, can be obtained, it will answer every purpose so well that it would not be worth while to incur the additional expense of building above ground. It should be provided with ventilators on the north side, but these should be opened only when the air is cool and dry. The floor should be cemented to avoid vermin. A cellar under a barn or other outbuilding would be preferable to one under a dwelling-house; or if obliged to use the latter it should be rendered independent of heat from above by a non-conducting top formed by one or two thicknesses of lath and plaster, with air spaces between, or by filling between the timbers with tan. Similar partitions should separate it from other parts of the cellar. If circumstances necessitated a situation less dry than is desirable, this might be remedied by tight lining of boards on the bottom and sides, with air spaces of three or four inches between the lining and the floor or walls, or the dampness could be removed by the chloride of calcium.

It will be found that some specimens of fruit will keep much longer than others of the same variety; those from an old or unhealthy tree, or from a warm soil, will generally ripen earlier than those grown on young and vigorous trees, or on strong and colder soils. Before being finally placed in the fruit room they should be carefully assorted, and those likely to ripen first, deposited by themselves. A little experience will enable the cultivator to do this. There is a kind of fungus having the appearance of black spots, which should be especially thrown out, for it is contagious, spreading rapidly in a warm barrel and communicating a bitter taste to the fruit. It has been recommended to pick fruit only when cool, avoiding the middle of the day, but this would reduce the working time so as to cause great inconvenience where there is much to be gathered, for all agree that it must not be picked with

the dew upon it, and it is not easy to see why fruit cooled on the tree should keep better than that cooled in the house. It will be found a good plan to gather fruit after the middle of the forenoon when the heavy autumn dews have dried, and devote the morning to sorting and arranging what has been picked the day before.

The most critical time in the management of winter fruits is during the beautiful, warm, damp, Indian Summer days of October and November. They will then need special atten tion to maintain a cool, even temperature and prevent the deposition of moisture.

The fruit should be placed in tight boxes or casks. It is best not to put more than two layers of pears in a box, for the pressure of the superincumbent fruit not only disfigures that below by flattening its sides, but may even rupture the vessels and cells and thus cause decay. All boxes, casks, etc., must be perfectly sweet, clean and dry. If flour barrels are used they should be thoroughly washed and dried, for the flour which remains after the most careful brushing is certain to mould with the least moisture. When filled the packages should not be moved more than is necessary, and then gently and carefully. All decayed specimens must be immediately removed, and no vegetable or other matter, which would produce unpleasant odor, should be allowed. A fruit room should not be otherwise occupied; frequent opening and shutting produces injurious changes.

If it is desired to use fruit before it would ripen in the fruit-room, it may be placed in a temperature of from 55 degrees to 70 degrees, when it will mature in one or two weeks, but it must not be exposed to the air. The flavor will not be improved over those ripened in the cooler atmosphere of the fruit room, except it may be in the case of a few varieties, such as the Vicar of Winkfield, which is thought better when ripened in a warm place. The Easter Beurre and Chaumontelle have been found to be improved by a somewhat changeable and moist atmosphere, but these are exceptions to the

general rule. Other kinds, such as the Bergamotte Fortunee, which in the more moderate heat, but longer seasons of Europe, are good dessert pears, under our fierce suns and shorter seasons fail to acquire such a degree of maturity on the tree that with the utmost care in the fruit room they can be rendered melting. Others, like the Josephine de Malines, though difficult to ripen when grown on young trees, mature easily as the trees attain age.

In considering this subject I have had the pear chiefly in mind, for the obvious reason that it is the most difficult fruit to preserve and ripen, and that whatever conditions will effect this will certainly preserve and ripen apples.

The cultivation of the grape has during the last ten years increased with a rapidity unparalleled in the case of any other fruit, and is destined to still further extension. It is extremely desirable to prolong the season of this fine fruit through the winter, and this may easily be done by placing them on shelves in a cold, dry closet, with a thickness of wadding over them; or in not more than two layers in shallow boxes in the fruit room, with a sheet of soft paper between the layers. They must be sound and well ripened, and all unripe, imperfect, bruised, or decayed berries must be carefully removed. Varieties with a thick skin are preferable for keeping, and among these none have succeeded better than the Diana.

Although the term "preservation" can hardly be applied to the ripening of summer fruit, it is so closely connected that a few remarks on that subject may not be out of place. It is now well known that almost all summer pears, to be eaten in perfection, must be ripened in the house; the exceptions to this rule are the Roussetet family, of which the Rostiezer is the only one generally cultivated. The property of ripening in the house is a most valuable one, for the fruit, gathered from one to two weeks before it will be in use, can in the mean time be transported hundreds of miles to distant markets; and the waste and trouble are far less when the whole crop is gathered at once, than when it must hang to be picked

as it ripens. The direction commonly given for gathering summer fruit has been to pick when it could be detached by merely lifting, but if we follow this rule our fruit will remain on the tree too long; it should be gathered as soon as it can be perceived that its hold on the branch is loosened. The flavor and color are brought out best when a considerable quantity is ripened together and in darkness and exclusion from the air, and the ripening is hastened by warmth and retarded by cold. The difference between pears ripened in the house and on the tree is so well stated by Mr. Barry that I quote his words:—"The process of ripening on the tree, which is the natural one, seems to act upon the fruit for the benefit of the seed, as it tends to the formation of woody fibre and farina. When the fruit is removed from the tree at the very commencement of ripening, and placed in a still atmosphere, the natural process seems to be counteracted, and sugar and juice are elaborated instead of fibre and farina. Thus pears that become mealy and rot at the core when left on the tree to ripen, and are pronounced worthless, become juicy, melting, and delicious when ripened in the house." The formation of woody fibre is especially noticeable in the Paradise d'Automne and Onondaga pears when left too long on the tree.

The majority of apples are better house-ripened, but the Early Harvest, Red Astrachan, Williams' Favorite, and Gravenstein should be allowed to hang on the tree until they drop.

Early peaches, to be in perfection, must be ripened on the tree; but the later kinds, ripening after the twenty-fifth of September, may be picked without injury, but rather benefit, a week or ten days before ripening; and some kinds, which are apt to be dry and pasty, are improved as much as pears.

To sum up as concisely as possible the conditions necessary for the preservation of fruit, they are—well grown, sound specimens, uniform exclusion of light, air, and moisture, and as low a temperature as possible without freezing. The simplest method of fulfilling these conditions is the best.

Our knowledge of this subject is yet very imperfect, and all who experiment upon it should accurately record their attempts, whether successful or otherwise, for their own benefit and that of the public, so that we may ultimately attain to a full understanding of its principles and methods. I would also urge upon cultivators the importance of originating from seed, either hybridized or carefully selected, new varieties of winter pears, which can be kept and ripened with less trouble and care than those we now possess. The successful experimenter would be well repaid, both pecuniarily and in the consciousness of having conferred a rich boon upon his fellowmen.

ANNUAL EXHIBITIONS OF THE SOCIETY.

PLACES WHERE HELD AND DATES.

1820, in Topsfield;
1821, in Danvers;
1822, in Topsfield;
1823, no Show held;
1824, in Topsfield;
1825, in Topsfield; [vers;)
1826, in Danvers (now S. Dan-
1827, in Newbury;
1828, in West Newbury;
1829, in Haverhill; dover;)
1830, in Andover (now N. An-
1831, in Andover do. do.;
1832, in Newbury;
1833, in Georgetown;
1834, in Georgetown; [vers;)
1835, in Danvers (now S. Dan-
1836, in Danvers do. do.;
1837, in Topsfield;
1838, in Topsfield;
1839, in Georgetown;
1840, in Georgetown;
1841, in Georgetown;
1842, in Andover;
1843, in Andover;
1844, in Ipswich;
1845, in Ipswich;
1846, in Lynn;
1847, in Lynn;
1848, in Lynn;
1849, in Salem;
1850, in Salem;
1851, in Salem;
1852, in Lawrence;
1853, in Lawrence;
1854, in Lawrence;
1855, in Haverhill;
1856, in Newburyport;
1857, in Newburyport;
1858, in Danvers;
1859, in Danvers;
1860, in South Danvers;
1861, in South Danvers;
1862, in Georgetown;
1863, in Andover;
1864, in Lawrence;
1865, in Lawrence;
1866, in Haverhill.

Dr. E. H. Payson, Treasurer, in account with the Essex Agricultural Society. Cr.

1865.				1865.		
Sept'r,	To balance of former account,	$1,645.82		October,	By amount of premiums and gratuities awarded by the Trustees in 1865–6,	$703.25
	To receipts of exhibition of 1865,	1,494.75		Dec. 31,	By Asiatic National Bank Stock,	490.00
Oct'r,	To State Bounty,	600.00			By Merchants National Bank Stock,	572.00
	To Bank Dividends, October,	292.00		1866.		
	To am't rec'd of Salem Bank, capital reduced,	25.00		Mch. 14,	By Insurance on Farm,	4.75
Dec. 31,	To New Members,	123.00		June 23,	By Asiatic National Bank Stock,	311.00
1866.					By Merchants National Bank Stock,	317.50
Jan'y,	To 1st National Bank, Salem, dividend,	70.00			By expense account as follows:	
	To Coupons Essex R. R.,	19.95			N. Cleaveland, $10.00	
Mch 14,	To Treadwell Farm, for rent, storage and straw,	179.00			Secretary's salary, 100.00	
April,	To Bank Dividends,	320.90			Postage, express, etc., 39.00	
Jan'y,	To Bank Dividends, Jan.,	70.00			Salem Athænum, 25.00	
	To Coupons E. R. R.,	19.95			Premium Book, 6.00	
	To unclaimed Premiums,	112.50			Printing, 342.25	
					Expense of Ex'bition at Lawrence, 1,057.93	1,580.18
					By balance of this account,	994.19
		$4,972.87				$4,972.87

FUNDS BELONGING TO THE SOCIETY.

16 shares	Warren National Bank, cost,	$1,595.40	Amount brought up,		$8,534.81
8 "	National Exchange Bank, par,	800.00	Essex Rail Road Bonds, par,		700.00
14 "	1st National Bank, Salem, cost,	1,402.66	Cash on hand as above,		994.19
7 "	Mercantile National Bank, par,	700.00			$10,229.00
13 "	Merchants National Bank, cost,	1,189.50	Funds on hand in 1865,		9,215.13
5 "	1st National Bank, Danvers, par,	375.00			
2 "	Salem National Bank, par,	200.00	Gain in 1866,		$1,013.87
15 "	South Danvers National Bank, cost,	1,471.25	The whole charge against the Treadwell Farm to date is		$1,115.03
27 "	Asiatic National Bank, cost,	801.00			
		$8,534.81	E. E.	E. H. PAYSON, Treasurer.	
			SALEM, September, 1866.		

OFFICERS OF THE SOCIETY,

FOR 1866-67.

PRESIDENT.

WILLIAM SUTTON, of South Danvers.

VICE PRESIDENTS.

LEWIS ALLEN, of South Danvers.
DAVID CHOATE, of Essex.
JOSIAH NEWHALL, of Lynnfield.
E. G. KELLEY, of Newburyport.

TREASURER.

EDWARD H. PAYSON, of Salem.

SECRETARY.

CHARLES P. PRESTON, of Danvers.

ONORARY TRUSTEES.

JAMES H. DUNCAN, of Haverhill.
JOHN W. PROCTOR, of South Danvers.
ALLEN W. DODGE, of Hamilton.
JOSEPH HOW, of Methuen.

TRUSTEES.

Randol Andrews, Ipswich;
Thomas J. Clark, Salisbury;
Elijah Clark, Groveland;
J. M. Cushing, Newburyport;
Wm. Foster, North Andover;
James Flint, Middleton;
Thos. P. Gentlee, Manchester;
Jonas Holt, Andover;
Joseph S. Howe, Methuen;
Henry Hobbs, Wenham;
Richard T. Jaques, Newbury;
John Keeley, Haverhill;
Jos. Kittredge, No. Andover;
Albert Kimball, Bradford;
James P. King, So. Danvers;
George B. Loring, Salem;
Samuel A. Merrill, Danvers;
Joseph Newell, W. Newbury;
James R. Nichols, Haverhill;
Hiram L. Newhall, Lynn;
Sherman Nelson, Georgetown;
Warren Ordway, Bradford;
Wm. R. Putnam, Danvers;
Isaac Patch, Gloucester;
John Perkins, Lynnfield;
Calvin Rogers, W. Newbury;
Wm. A. Russell, Lawrence;
David Smith, Newburyport;
Benj. P. Ware, Marblehead;
John T. Wood, Boxford.

NEW MEMBERS — 1866.

Daniel Atwood, Groveland;
Randol Andrews, Ipswich;
Horatio Bodge, So. Danvers;
Barnard Brickett, Haverhill;
John Burbank, Groveland;
Ezra Batchelder, Topsfield;
C. O. Cummings, Andover;
Nehe'h Cleaveland, Topsfield;
Abel W. Chase, Haverhill;
W. T. Colman, Newburyport;
Eben P. Cutler, Newburyport;
H. M. Chadwick, Bradford;
Nath'l Carlton, Bradford;
Phineas E. Davis, Haverhill;
W. J. Dale, Jr., N. Andover;
Chas. B. Emerson, Bradford;
Joseph E. Farrar, Haverhill;
E. G. Frothingham, Haverhill;
Dan'l D. Flanders, Haverhill;
J. L. Farnham, No. Andover;
T. C. Goodwin, Newburyport;
John Gardner, Haverhill;
J. Grieves, Haverhill;
Edw. Harrington, Groveland;
Dan'l Hamblet, Newburyport;
Isaac Hale, Jr., Newburyport;
Daniel Hooke, Haverhill;
S. S. Hicok, Methuen;
L Thos. Johnson, Haverhill;
A. P. Johnson, Bradford;
Chas. G. Johnson, Bradford;
J. F. Jewett, Georgetown;
A. L. Kimball, Bradford;
H. G. Kimball, Bradford;
T. K. Leach, Topsfield;
Charles Lunt, Newburyport;
J. Austin Lunt, Newbury;
Alphonzo Mason, Beverly;
Seth K. Mitchell, Haverhill;
John F. Merrill, Bradford;
H. A. Moulton, Newburyp't;
E. Mitchell, Haverhill;
E. T. Northend, Bradford;
Dudley Porter, Haverhill;
R. M. Perley, Newburyport;
John H. Perkins, Lynnfield;
Mrs. B. B. Pool, Byfield;
Geo. F. Reed, Salem;
Amos C. Rollins, Methuen;
J. B. Richardson, Haverhill;
J. E. Remick, Newburyport;
Wm. A. Russell, Lawrence;
D. Silloway, W. Newbury;
J. B. Spiller, Haverhill;
S. P. Spofford, Georgetown;
Jesse W. Snow, Danvers;

Samuel Swett, So. Danvers;
L. P. Shattuck, Jr., Haverhill;
Farnham Stiles, Middleton;
Hiram A. Stiles, Middleton;
George G. Smith, Marblehead;
Andrew Smith, Marblehead;
J. B. Swett, Haverhill;
G. W. Sanborn, Georgetown;
Henry E. Smith, Lynnfield;
S. G. Sargent, Methuen;
Benaniah Titcomb, Haverhill;
Chas. W. Titcomb, Bradford;
E. S. Toppan, Newburyport;
J. B. Tewksbury, Bradford;
Martin Taylor, Haverhill;
Oliver Taylor, Haverhill;
Levi Taylor, Haverhill;
James F. West, Haverhill;
H. T. Wheeler, Lawrence;
Richard Webster, Haverhill;
E. F. Webster, Haverhill;
Jas. H. Winchell, Haverhill;
H. K. West, Haverhill;
David Wenzell, Salem.

☞ Any citizen in the County may become a member by paying the sum of three dollars to increase the permanent funds of the Society, and he will receive a certificate of his membership from the Secretary. No fines or assessments are ever imposed. Members are entitled to the free use of the Library and a copy of the Transactions each year. All ordained Ministers of the Gospel residing in the County, and editors of newspapers, published therein, are entitled to the privileges of the Library.

LIST OF PREMIUMS, &C.

FAT CATTLE.

Daniel G. Todd, Rowley, 1st premium,	$10.00
Frank Brickett, Haverhill, 2d premium,	8.00
Stephen Little, Bradford, 3d premium,	5.00

BULLS.

Charles P. Mighill, Rowley, Jersey Bull, 1st premium,	8.00
Wm. A. Russell, North Andover, Dutch, "	8.00
John Day, Jr., Boxford, Short Horn, 2d "	5.00
C. O. Cummings, Andover, Grade Bull, 1st "	8.00
Joseph Newell, West Newbury, 2d "	5.00

MILCH COWS.

H. G. Kimball, Bradford, Grade Ayrshire, 1st prem.,	25.00
S. G. Sargent, Methuen, Native, 2d "	10.00

HEIFERS.

Jacob F. Jewett, Georgetown, 3 year old, 1st prem.,	10.00
W. A. Russell, N. Andover, 2 yr. old, Dutch, 1st "	5.00
H. K. West, Haverhill, 2 year old, Grade Jersey, 2d premium,	Harris' Insects
E. C. Mitchell, Haverhill, yearlings, Grade Short Horn, 1st premium,	5.00
H. K. West, Haverhill, yearling, Grade Jersey, 2d prem.,	3.00
E. T. Northend, Bradford, Calves, 1st premium,	6.00

WORKING OXEN AND STEERS.

James R. Nichols, Haverhill, Oxen, 1st premium,	$12.00
Chas. O. Cummings, Andover, " 2d "	10.00
Joseph S. Howe, Methuen, Steers, 1st "	8.00
Wm. Foster, No. Andover, " 2d "	5.00
Town Team, Bradford, 17 pairs Oxen, gratuity,	30.00

STEERS.

J. C. Tarlton, West Newbury, yearling, 1st premium,	4.00

STALLIONS.

E. T. Northend, Bradford, Stallion over 4 years old, 1st premium,	15.00
George B. Martin, Danvers, Stallion over 4 years old, 2d premium,	10.00
Elbridge Battelle, Newburyport, Stallion under 4 years old, 1st premium,	8.00
George Coffin, Haverhill, Stallion under 4 years old, 2d premium,	5.00

BREEDING MARES.

Enoch T. Northend, Bradford, 1st premium,	15 00
John Gardner, Haverhill, 2d "	10.00
Phineas E. Davis, " 3d "	8.00

FAMILY HORSES.

Mrs. B. B. Pool, Byfield, 1st premium,	10.00
John Gardner, Haverhill, 2d "	8.00

FARM AND DRAFT HORSES.

M. H. Poor, West Newbury, 1st premium,	10.00
J. L. Farnham, No. Andover, 2d "	8.00

COLTS.

James H. Duncan, Haverhill,	4 year olds,	1st	premium,	$10.00
Nath'l Gage, No. Andover,	" " "	2d	"	5.00
H. M. Chadwick, Bradford,	3 " "	1st	"	6.00
D. L. Goodridge, W. Newbury,	" " "	2d	"	4.00
W M. Chase, Haverhill,	2 " "	1st	"	5.00
E. R. Todd, Rowley,	" " "	2d	"	3.00
T. Weed, Quimby, Amesbury,	yearling,	1st	"	4.00
Farnham Spofford, No. Andover,	"	2d	"	3.00

SWINE.

Daniel Carlton, No. Andover,	breeding sow,	1st	premium,	8.00
William Foster, " "	boar,	1st	"	8.00
Robert Buxton, So. Danvers,	"	2d	"	5.00
Joseph Longtellow, Byfield,	weaned pigs,	1st	"	5.00
John P. Foster, No. Andover,	" "	2d	"	3.00

SHEEP—COARSE WOOLED.

Charles Corliss, Haverhill,	flock,	1st	premium, 8.00
Jos. Newell, W. Newbury,	"	2d	" 5.00
Charles Corliss, Haverhill,	buck,	1st	" 6.00

PLOUGHING—DOUBLE TEAMS.

J. L. Farnham & Daniel Carlton, North Andover. Plough, Hussey No. 16, 1st premium, 10.00

J. & D. L. Goodrich, West Newbury. Plough, Hussey No. 16, 2d premium, 9.00

R. T. Jaques, Newbury. Plough, Hussey No. 20, 3d prem., 8.00

C. O. Cummings, Andover. Plough, Whittemore, Belcher & Co., 4th premium, 7.00

PLOUGHING—SINGLE TEAMS.

John P. Foster, North Andover, 2d premium, 6.00

PLOUGHING—WITH HORSES.

Otis F. Putnam, Danvers. Plough, Nourse Universal, 1st premium, 8.00

Jacob & J. L. Farnham, North Andover, 2d premium, 6.00

Wm. P. Buttrick, Haverhill, 3d " 3.00

PLOUGHING—SIDE HILL PLOUGHS.

William Foster, North Andover, 1st premium,	$10.00
Cyrus K. Ordway, W. Newbury, 2d "	8.00

FARM IMPLEMENTS.

S. S. Hicok, Methuen, potato digger, operated by two horses, gratuity,	8.00
Joel Nourse, Boston, collection of ploughs and other farm implements, gratuity,	5.00
Joseph Kittredge, North Andover, Raymond's horse pitchfork in operation, gratuity,	3.00
Buck Eye Manufacturing Co., Fitchburgh, a two horse mower, gratuity,	3.00
John M. Wean, Seabrook, N. H., a one horse clipper mower, gratuity,	2.00
Alfred Titcomb, Amesbury, McIntire's Excelsior churn, gratuity,	2.00
H. D. Hoyt, axe handle wedge, gratuity,	2.00
B. T. Watson, Salem, Kelley's force pump, gratuity,	1.00
Whittemore, Belcher & Co., Boston, Joyce's double acting force pump, gratuity,	1.00

CARRIAGES.

T. Grieves & Co., Haverhill, best display, premium,	10.00

BUTTER AND CHEESE.

Nathaniel Carlton, Bradford,	butter,	1st	premium,	12.00
Ezra Batchelder, Topsfield,	"	2d	"	10.00
Sarah L. Ridgway, West Newbury,	"	3d	"	8.00
Mrs. Geo. Spofford, Georgetown,	"	4th	"	

Harris' Insects

D. L. Goodridge, West Newbury,	Cheese,	1st	premium,	12.00
N. W. Moody, " "	"	2d	"	10.00
Daniel P. Nelson, " "	"	3d	"	8.00

ROOT CROPS.

David Wenzell, Salem, onions, premium,	8.00
Hiram A. Stiles, Middleton, turnips, premium,	8.00

EXPERIMENT WITH MANURES.

William R. Putnam, Danvers, 1st premium,	$15.00

CRANBERRIES.

Gilbert Conant, Ipswich, experiment with cranberries, prem.,	10.00

FARM BUILDINGS.

John Day, Jr , Boxford, 1st premium,	15 00
Horace C. Ware, Salem, 2d " .	10.00

ESSAY.

Robert Manning, Salem,	25.00

Awarded by Committee on			Poultry, "Harris' Insects" and	$15.00
"	"	"	Vegetables and Seeds, H. I. and	68.50
"	"	"	Fruits, 2 copies H.'s Insects and	105.50
"	"	"	Flowers,	27.50
"	"	"	Articles from Leather,	29.00
"	"	"	Counterpanes, Rugs, &c.,	31.00
"	"	"	Fancy Articles, &c.,	65.25
"	"	"	Bread, &c.,	10.50
		Total,		$1,000.25

RECAPITULATION.

FARMS, &c.

Amount awarded to		Experiment with Manures,	$15.00
"	"	Farm Buildings,	25.00
"	"	Ploughing,	75.00
"	"	Farm Implements, &c.,	37.00
			$152.00

FARM STOCK.

Amount awarded to		Fat Cattle,	$23.00
"	"	Bulls,	34.00
"	"	Milch Cows,	35.00
"	"	Heifers,	23.00
"	"	Calves,	6.00
"	"	Working Oxen and Steers,	65.00
"	"	Steers,	4.00
"	"	Stallions,	38.00
"	"	Brood Mares,	33.00
"	"	Family Horses,	18.00
"	"	Farm and Draft Horses,	18.00
"	"	Colts,	40.00
"	"	Swine,	29.00
"	"	Sheep,	19 00
"	"	Poultry,	15.00
			$400.00

FARM PRODUCTS.

Amount awarded to		Onions,	$8.00
"	"	Turnips,	8.00
"	"	Cranberries,	10.00
"	"	Vegetables,	68.50
"	"	Fruits,	105.50
"	"	Flowers,	27.50
"	"	Butter and Cheese,	60.00
"	"	Bread, &c.,	10.50
"	"	All other objects,	150.50
			$448.50

Total,	$1,000.25

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TRANSACTIONS

OF THE

Essex Agricultural Society

IN MASSACHUSETTS,

FOR THE YEAR

1867,

WITH THE

ANNUAL ADDRESS

BY

REV. R. H. SEELEY, D. D.

PUBLISHED BY ORDER OF THE SOCIETY.

SOUTH DANVERS:
PRINTED BY CHARLES D. HOWARD, SUTTON BUILDING.
1867.

ADDRESS.

Mr. President and Gentlemen of the Essex Agricultural Society:

When the invitation to deliver the address on the present occasion was sent me by your honored secretary, I hesitated, because my pursuits do not bring me into the practical operations of farming, and I could not regard the interest I had always taken in this particular branch of those great forms of industry on which the prosperity of the country depends, as fitting me to instruct, or even to entertain an association like this, composed of gentlemen who are skilled in the practice and learned in the science of Agriculture.

But sometimes the inexpert may be of use to the proficient, and the looker-on may be able to turn the attention of one who is closely engaged in a piece of work to matters connected with it which otherwise he might have overlooked. So, not without misgivings, I consented to perform the service, in which, I doubt not, I shall both need and receive your kind forbearance.

I suppose the question, What shall I do with my Farm? may have awakened anxious interest in the mind of many a one amongst you; and this question I propose as a gateway to the field we are now to explore.

The first thought which suggests itself in reply to such an inquiry is this, viz: *that it is not advisable to sell or leave the farm* for the purpose of removing into the neighboring village or city, nor for the purpose of emigrating to some newly opened field, whether in the West or South.

That the tendency, at the present time, in New England, is to the concentration of population in cities and villages, is quite evident, and that this tendency portends evil, nay, has already injured the rural districts, we may ascertain without any extraordinary keenness of perception.

Farms that have yielded fair returns in days gone by, for the thought and toil expended upon them, are no longer managed by the sturdy race which has given to New England the pre-eminence she occupies among nations. The fathers are dead, and the sons are in workshops, manufactories, mercantile establishments, engaged on railroads, enduring the hardships of frontier life on western prairies, pushing their fortunes in far-off California, or entering what openings they can find in the partially reconstructed South. Meanwhile the homestead and farm which form the center of their most cherished memories, and the surrounding neighborhood, are returning to a wilderness state—except where the shrewd immigrant, from beyond the Atlantic, erects his cabin, plants his patch of cabbages, and rears his numerous brood of boys and girls, the first steps toward a permanent and sole possession of the district. It needs

no prophet's ken to perceive that, if this process continues, there will be, in time, a complete exchange of races and religions, with as complete a change in the influence which New England exerts upon our country and the world.

But why should this process continue to the extent which we are witnessing at this day? There may be families for which the old farm and the old neighborhood are too narrow; and some of the boys—some of the girls also—must go forth into the newer and wider, or the busier and narrower places of the land. But, if you are not thus crowded from the dear old hive, why should you leave it? Are you impelled by patriotism? And would you emigrate for the purpose of extending or maintaining the political principles you cherish, with those of an enlightened Christianity, over the fields in the West or South where you purpose to spend your life? If, on careful inquiry and reflection, you come to the conclusion that by removing you can live to more purpose than by remaining under the old roof-tree, then go forth. Go as a missionary—whether your garb be that of a merchant or mechanic, manager of public works, or tiller of the soil. Go and sacrifice on your chosen altar; but go counting the cost, and remember that amid the boundless plains of the West, or the scorching and debilitating heats of the South, you must often sigh for the hills and vales, the perennial springs and crystal streams and bracing airs of the home you are leaving; and that you *may* find the wish taking possession of your heart that you had decided to serve your country and your God, in a less ambitious way, near the natal spot.

It may be, however, that you are moved by other con-

siderations. Possibly you feel constrained to leave a *climate* which, while it gives health and strength to others, is depriving you of yours. In this case, also, we bid you God-speed. Go to some one of those broad fields in the interior of our wide land, which the fog and mist of ocean never reach, where a virgin soil awaits your coming, and will repay your toil; or plant yourself in the sunny South—in a tropical climate, if you please—where, under the spreading shades of your your figs and olives, oranges and bananas, you can recline and fan yourself, and think how pleasant it would be to breathe once more the cool crisp air of the mountains, or to slide over the smooth paths of the shining snow, with the merry jingle of the bells and the music of laughter-loving maidens, or with the still sweeter music of cheerful wife and rosy-cheeked children.

But, perhaps, you feel that your sphere of action is here too limited; and you would cover with your title deeds, and vex with your plough and harrow, some of those wider and more fertile fields which stretch away toward the sunset.

I do not deny the attractions there presented to brawny muscles, and active brains, and ambitious hearts. It must be a pleasant thing to behold a field of a thousand acres, which one can call his *own*, covered with countless cattle and swine, or with wheat fields waving their welcome to the summer's sun, and giving golden promise of bountiful harvests. *Other things being equal*, this is decidedly preferable to a few acres of thin hard soil, with a scanty patch-work of the various crops, which the climate permits, while there is nothing *in sufficient quantity* to afford either a desirable profit, or reason for an honorable pride.

But while the latter is too frequently the character of the home-view, we must remember that not every one who enters into western prairie life can make sure of his thousand acres; and many of the broad fields of grain, and large flocks and herds which thrive in the imaginations of ambitious emigrants, never come into the region of the actual for *them*. 'Tis true, they are beheld here and there. Certain prairie farmers become possessors of immense estates, which they manage with great success; but, like the overgrown fortunes sometimes accumulated in mercantile communities, they are exceptional cases; they are the achievements of those who have special qualifications for the pursuits in which they are engaged; and it is barely possible, to say the least, that *you* may not have the "special qualifications" which are necessary for the acquisition of such an estate.

But suppose you should emigrate and succeed in getting your thousand acres, well-stocked, well-cultivated, and generously productive. What then? Is it certain that your enjoyment of life would be greater than in your present surroundings with a smaller domain? It may be that you will need educational advantages for your children; but such advantages cannot be very great on the broad prairies where farms are large and neighbors are "few and far between." It may be that you love the house of God, and "the sound of the church-going bell;" but worshipping assemblies are necessarily far apart on those wide plains; and the Sabbath bell never sent its sweet echoes over the threshold of many a domicile where, amid boundless fields of corn and wheat, there are hearts that long for its solemn music, and sadly acknowledge the truthfulness of those words, "man shall not live by *bread* alone."

One should weigh well this matter, and consider whether, for the sake of covering a larger surface with his title deeds, he is willing to lose the associations of his childhood, the fellowship of brothers and sisters, and the loving presence of father and mother, with all the privileges and enjoyments of a New England home.—These are things for which breadth of acres and depth of soil are not to be reckoned as equivalents.

When the paternal estate is small, and the family is large, so that the farm when divided would not afford to each a fair opportunity for success, then it may be necessary for some of them to exile themselves; and, if their tastes are for agriculture, the West affords an ample and inviting field. It needs those who, imbued with New England principles, will use their influence in behalf of a high social and moral culture, and it presents, to the enterprising and industrious, abundant opportunities for the acquisition of wealth. We should be willing to admit that the chances of becoming rich—especially in farming—are greater for that portion of the family which emigrates than for those who remain at home.

But the actual value of wealth is in its power to procure that which, in some way, will promote the comfort, enjoyment, or improvement of its possessor. Judged by this criterion, the lesser amount secured by him who remains at home, *may* be, to the larger share gained by the other, as gold to silver—less bulky, but more valuable; for, while the fields are not so broad, nor the soil so deep, while the enclosures are more contracted and the crops are less luxuriant, while occasional steeps and knolls and boulders, and ledges of rock, present more difficulties to the cultivator, and the same number of acres do not yield such full and generous returns, it

must be remembered, on the other hand, that there is not so great an exposure to the sweep of wintry winds, the population is not so sparse, nor are the privileges of social life, the means and appliances, the influences and results of civilization so limited.

The one, therefore, who plants himself on the prairie —a monotonous wilderness—where his possessions have so little to distinguish them from those of others, must often turn with a sigh to the spot so dear to memory, where the companions of his boyhood continue to weave the chain of their early friendships. There is the old homestead surrounded by the everlasting hills, their bold outlines giving grace and grandeur to the scene, their forests waving like Lebanon, their crystal streams dashing down to the valley and sparkling through the sweet green pastures, bearing refreshment and health to man and beast. Each hill-side and interval are covered with crops, which exhibit the results and fair rewards of careful tillage; while frequent, neat and convenient dwellings, embowered mid fruit trees and gardens, like rubies set round with emeralds, betoken a numerous and thrifty population, whose characteristics are testified no less by the general appearances of industry and comfort, than by the district schools and village spires.

Recalling such scenes, our exile must be made of sterner stuff than most of us if he does not have some slight symptoms of homesickness; and musing upon his own estrangement from the old familiar faces and places, from the cottage of his childhood and the graves of his sires, repeat, with emphasis, the well-known lines:

> "Happy the man whose wish and care
> A few paternal acres bound;
> Content to breathe his native air
> On his own ground.

But I may be addressing some young man who is disposed to leave the farm with a view of entering into trade—manufacturing or merchandizing—in the hope of living more easily, and acquiring large, perhaps sudden, wealth.

As to acquiring large and sudden wealth by merchandizing, we might as well face the facts at the outset. It is true that the merchant *handles* more cash than the farmer. It is also true that here and there a merchant prospers. A few among the multitude amass large fortunes, and *on these* the gaze is fixed of every farmer's son who is tempted to desert the plantation for the counting-room.

But we have already remarked that the men who acquire these large estates have special gifts *for this very thing*—as truly so as Raphael for painting, as Praxiteles for sculpture, as Bezaleel and Aholiab for producing the artistry which adorned the Tabernacle of the Wilderness; and there are *farmers* who have the same gift for accumulating property, who rise from poverty to opulence, no matter where they dwell, on the wide western prairie, or in the narrowest, roughest, most unpromising district of New England. But these prosperous *farmers* are overlooked by those who rush from the plough and flail to the yard-stick and ledger.

It cannot be disputed the mercantile profession has a fair field in this country. Almost every one who wishes can enter it and find something to do, while many attain a good degree of success. But this is only one side of the picture. The other side discloses the fact that the career of multitudes of those engaged in commercial pursuits is one constant struggle with anxieties and difficulties, perhaps temptations to knavishness,

until, in some financial crisis, credit and commercial standing are swept away, and the latter portion of life, over which had floated so many golded visions of wealth and luxury, and honor and ease, is spent in shinnings and make-shifts, in disappointment and poverty—perhaps in disgrace and actual want. It is not a strange thing for the merchant who has handled millions, whose check has been an "open sesame" before which bank safes swung wide their iron doors and delivered untold amounts of gold, to reach a point in his career, where he would be glad to call his own the humblest cottage and the smallest farm, and wishes he had never been tempted from a farmer's peaceful and happy life by the glittering promises of commerce.

We are presenting no imaginary cases. The statement was made, some years since, that not more than one New York merchant in ninety, managed to escape failure at some time in the course of his life; and observation favors the conclusion, that the examples of final and complete success are comparatively few,—that the great body of merchants are forced to battle hard to make the ends of each year meet, even down to the close of their business career; while many of them end it as clerks, employees and dependents of others. I have seen the man who, at one time, was most widely known among the merchant princes of New York, whose name stood at the head of all subscriptions for charitable objects, and was a talisman in the cause of reform,—I have seen him acting as an employee of his former clerks in the very establishment which his own enterprize and genius had founded and upreared. This is, by no means, a solitary case.

Mercantile pursuits, however, are not the only ones

that open their portals to tempt our youth from the farm. There are those of the Mechanic and the Manufacturer, which are *supposed* to be less hazardous than that of the Merchant, but more remunerative and less toilsome than that of the Agriculturist.

But let us consider this matter. It is not always advisable to take a bare supposition on trust. Behold the lot of the Mechanic. From the time he puts on his harness as an apprentice, till he lays it aside in later life, he must work as unremittingly as the sun shines. He must have customers, and they must be served with promptness and regularity. The constancy of labor must precede those rewards of labor on which his living depends; while, in most mechanical pursuits, the constant repetition of the same things—the *sameness* of the work—must render it tiresome. It is with each of them as with Longfellow's *Blacksmith :*

> "Week in, week out, from morn till night,
> You can hear his bellows blow;
> You can hear him swing his heavy sledge,
> With measured beat and slow."

Finally, after years of hammering, he reaches the close of his working days, and then what? Why, he seeks rest for his body and refreshment for his mind, in the pursuits of a *farm!* and feels himself happy if he has been sufficiently successful to be able to purchase a few acres, in connection with a modest dwelling, and barn room enough to accommodate a horse and cow.

The Manufacturer may not be forced, it is true, to this ceaseless exertion of the muscles; but he may have to endure that severer toil of the brain which wears directly on the sources of health and strength and life, and he has not even that brief exemption which the

meal time, the night, and the Lord's day, each brings to the mechanic; for carking care sits by his side in the home circle, flaps its dark wing o'er his nightly slumber, and too often follows him to the house of God.

Moreover, if either he or the mechanic, lays aside his toil; if he remits his exertions, whether voluntarily, from sickness, or from want of customers, the sources of his income are checked; and, as his expenses continue, he must break in upon the stores he has laid by in his busy and prosperous seasons; consequently, like a bird in the air, he must keep his pinions outspread and in motion, or he begins to descend and is threatened with a fall.

Now is it unreasonable to affirm that, in these respects, the farmer's lot is preferable to that of either of these men? We all know that he has to do some very hard work—that there are seasons when he must be astir, both early and late, and bend to the task before him with a right good will. We know that there are disappointments, from drought and mildew, from cold and wet, from blighted crops and sickly cattle, enough to try his spirit and test his character severely. Moreover—as we may have occasion to note somewhat at length—his calling demands *thought* as truly as that of the manufacturer or the merchant. But when all these things are taken into consideration, it still remains true, that, having breathed the pure air of heaven through the day, he lies down at night to the sweet sleep which God gives to his beloved. Then, again, he has his seasons of relaxation, when plough and hoe, scythe and flail, bush-hook and axe, may all be quietly housed together, while he enjoys, with physical rest, the pleasures of the intellect and of social life to the full extent, without one

qualm of conscience over any neglect of duty, or the thought that his temporary cessation from work will lead to pecuniary loss.

We admit that in New England farming does not ordinarily afford the prospect of sudden wealth. But what *lawful* pursuit does give such a promise? or, giving the promise, makes the promise good? There is no safe and honorable pursuit which holds out any such prospect; and, surely, the sudden acquirement of wealth is not such a *necessity* that one should leave the farm with its honest labors and honest independence too, for a calling which has in it any characteristics of the gambler's trade.

The sum of the matter is this, viz: *the farmer is now in the very pursuit* for which the mechanic, the manufacturer and the merchant longs; to which each of them looks, as the crowning happiness of his life's labors; and for which he only waits till he can secure a "competence" and "retire from business." By a "competence," he means the wherewithal to purchase a country home and a well-stocked farm! As to "retiring from business"—if he has the necessary knowledge and shall conduct his farm in such a manner as to do himself honor, and his pocket no harm, he will find himself *still in business,* though of a description more pleasing, perhaps, than that he has laid aside; and, we may add, *if he has not* the requisite knowledge, he may possibly find that his retirement has brought him into business a little too large for his comfort and his cash.

When a man has gained a competence in one of the callings to which we have referred, and proposes to "retire," he thinks himself to be entering a golden period of ease and dignity, over which no clouds will gather,

in which no dangers will lurk. But observation shows that he is mistaken. Out of ten men who can *make* money in the pursuits with which they are acquainted, not more than five of them can *keep* that which they have made, when they leave those pursuits. For, in withdrawing from the track with which he is familiar, and entering the new path, our gentleman with the competenence runs many risks, and frequently makes most ruinous mistakes. If he goes into the stock market he finds sharpers, bigger than the dividends their schemes promise, and more abundant than the nuggets of gold and silver in the mines of which they would have him purchase shares.

If, turning from such snares, he invests one portion of his property in safe concerns, and another portion in the much desired farm, he lacks the practical skill in the management of the latter, which one possesses who has spent his days in agricultural pursuits; and it will not be strange, if it takes all the income of his vested funds to enable him to carry on the farm with as fair a show as his practical neighbor, who manages without the income of investments.

Let him, therefore, who has a farm in any district of New England, which equals the average for fertility and advantages of position, hold it, as the safest form in which his property can be invested, and work it with that thought and skill which are the guaranty of fair returns, remembering, meanwhile, that not the ruler of the State, nor the proudest merchant upon 'change, is so independent as himself, of the crises and changes, which, whether by violence, or the operation of steady laws, occur so frequently in the social and political affairs of the country.

The ownership of land in itself is honorable, and, as was well shown in the address to which we listened one year ago, is of great importance to the State. The retention of a homestead and farm in the possession of a family is one of the most desirable things, whether we consider it as a matter of investment, or of a just and honest pride, as the foundation of a sentiment of family respectability and honor, which successive generations feel themselves bound to maintain, thus proving a safeguard to the children, restraining them from conduct which might disgrace the family name, or sacrifice the cherished inheritance.

Having decided to retain the farm, the question *what to do with it*, returns; and the solution of this question can be reached only by taking into consideration the adaptedness of the farm to this or that purpose, its extent, aspect, soil, and relation to the market.

As it should be worked with a view to profit, the first thing to ascertain is, *what it may be made to produce that is worth raising—that will pay.*

We may safely assume, at the outset, that no man in our good County of Essex can make his farm very profitable who works it on the plan, too frequently pursued, of raising scattering patches of corn, potatoes, rye, oats, beans and grass, on a small scale, and half starved soil; with a large extent of cider orchard, left unmanured and uncultivated, a perfect hotel for caterpillars, borers, canker-worms, and apple-moths; this lean plantation stocked with a few indifferent cows, a pair or two of ordinary oxen, two or three pigs, and a horse of all work, the whole establishment barely supplying the annual consumption by the family through hard work and much economy on the part of all its members.

This style of farming will not prosper in these days, when steam and the iron horse have brought the prairies, with their limitless extent of surface, and unequaled soil (and all for a dollar and a quarter an acre) within such easy reach of the seaboard.

We must adapt ourselves to the change of circumstances thus introduced, and raise *something that will pay*, on a *scale large enough to pay*, or New England farming will come out "at the little end of the horn."

A farm in our county may be well adapted for dairy purposes, or for sheep raising; it may present facilities for growing root crops, or for market gardening. It may include favorable situations and soils for apples, and pears, or for the cultivation of hops, or grapes, and the other small fruits. Any of these products, if the soil and aspect be suitable, and the access to a market easy, can be made profitable *with the right management.* Grazing and dairy farms do pay nobly in New England. There are towns which (without facilities for the sale of milk) have prospered and become rich by the manufacture of butter and cheese. In certain districts, and under certain conditions, sheep raising is profitable; as the example of Mr. Edwin Hammond, and other Vermont farmers, fairly demonstrates. Market gardening, on the right kind of land, and in the vicinity of a market, pays well. There are instances enough to show that root-crops may be remunerative in New England; and, it is worthy of remark, that the cost of transporting such bulky products as these, saves us from the necessity of competing with the West. It has been abundantly proved, also, by experiments in France, that the cultivation of beets for the purpose of making sugar, is not only feasible, but is also profitable to such an

extent, that the manufacturers of beet-root sugar ask no protective duties to enable them to compete with the imported sugar which is made from the cane. The time is coming when this matter will be taken up in our Northern States; and when that time arrives, the cultivation of the sugar beet will form an extensive and lucrative department in the business of farming.

I do not know that the soil and climate of New England would prove favorable for the cultivation of hops on a large scale, but judging from the luxuriant growth and fruitage of single vines, here and there, in our neighborhood, the conclusion seems reasonable that the ordinary kind of hops would flourish in our old-fashioned fields, quite as well as another variety of "hop" in our fashionable hotels, and prove much more profitable to those engaged in "getting them up."

Then we have the finer varieties of apples and pears, with the smaller fruits—the strawberry, the raspberry, the blackberry, and the cranberry—most of which require nice management, and some little enterprize to secure success; but which yield most generous returns for the care and expense bestowed upon them. Of apples I need not speak—though I am informed that one of the members of your society has received *four thousand dollars* for his crop of apples in a single year! A few years since, at the counter of the Brevoort House, in New York city, I saw nineteen dollars and the express charges paid for five pecks of pears; and I was not more surprised at the price paid, than at the remark of one of the proprietors of the hotel, that the fruit came from Boston, and that the finest pears and most of the hot-house grapes used in that establishment, were brought from the same city.

Those who are familiar with the facts (and those who are not should read the charming book, entitled "Ten Acres Enough") are aware that the cultivation of strawberries, raspberries, and blackberries, in large quantities, and in the neighborhood of a large market, is exceedingly profitable, throwing into the shade the gains secured by any of the ordinary farm staples; while of the profits afforded by cranberries I need not speak. And where, we may ask, can a more favorable locality be found for the ready and profitable sale of such fruits than our own County, with its several cities and large manufacturing centres, and withal so conveniently situated in respect to Boston?

I cannot leave this part of my subject without saying a few words concerning *the vineyard cultivation of grapes.*

It is not every farm that presents the right soil and aspect for this purpose; but a person who owns a piece of ground which is well adapted for a vineyard, can not afford to use it for anything else. Experiments are sufficiently numerous to show that, even with the varieties of grapes we already possess, vineyards may be made exceedingly profitable. That of Dr. Underhill, at Croton Point, on the Hudson River, is, probably, one of the most profitable in the country, but it is so largely devoted to the production of wine, that it can hardly be referred to as an example. Dr. Underhill has between fifty and sixty acres of vines in bearing at Croton Point, and several additional acres at his farm three miles distant. He employs from ten to thirteen men through the season, and, during the vintage, a number of women also are employed to assist in selecting and packing the fruit for market, and assorting that which is made into wine, so that no unripe berry shall enter

the wine press. The exact amount received for the crop of any particular year can not easily be ascertained, since the wine is not sold until it is four years old. But the statistics are sufficient to show that the profits must be very great. About half of each crop is sold in the New York market, and the other half is converted into wine. The vintage of 1863 gave 5,550 gallons.* In 1864, the product was 6,000 gallons; in 1865, it amounted to 7,000 gallons; while in 1866 the total was diminished in consequence of the severe winter of 1865–6.

It must be admitted that the situation of this vineyard is much more favorable than can be secured ordinarily; and in the vicinity of such a market as that of New York there are advantages which can not be possessed by every one. But the example is an interesting one on many accounts.

The practicability of cultivating grapes in vineyards, and on a large scale, in our Commonwealth, is demonstrated by Mr. Bull and his enterprising neighbors at Concord. There are in that town more than twenty acres of vineyards. Experiments are also being made in Haverhill, which will furnish additional proof, we doubt not, both of the possibility and the profitableness of this crop. Indeed, we hope ere long to see every suitable spot occupied, and the County of Essex adorned with vineyards, beautiful and remunerative as those which grace the slopes of the Jura, as seen from Lake Geneva.

Mr. Bull, of Concord, to whose experiments and success, and intelligent communications on this subject the

*The pure juice of the grape. We understand that Dr. Underhill does not adulterate his wine with sugar, or water, or alcohol, or any form of drugs.

whole country is under obligations, makes certain statements (which have been published in the annual reports of the State Board of Agriculture) to which I would invite your special attention. He states:

Firstly—That wherever Indian corn will ripen, there the grape will also ripen. (He refers to the Concord grape.)

Secondly—That for field culture in our climate, trenching and heavy manuring are not only unnecessary, but actually injurious; but that a soil cultivated to a sufficient depth, and made sufficiently rich, for producing a good crop of corn, is deep enough and rich enough for grapes. Indeed, he claims that, for our climate, the plants should not be set more than six inches deep in the warm and dry soils; nor more than four inches deep in those which are strong and moist.

Thirdly—That it requires no more labor and expense "to take care of" an acre of grapes, than to "make" an acre of corn; since the latter implies the necessity of carting on manure, ploughing, and successive hoeings, while the grapes need fertilizing with a little plaster of Paris, bone dust and ashes, only once in four or five years, and consequently require less work to keep down the weeds. As to *pruning*, he says, "a little wise neglect is better than a too frequent, or too severe application of the knife." "You plough and cultivate as soon as the frost is out, and again in the summer, to keep down the weeds; and you *pinch* the growing shoots two or three times, to consolidate the growing wood;—this is all the care they need until the crop is ready to gather." Moreover, he affirms that, when planted in rows eight or ten feet apart, and six feet apart in the row, and treated in the manner described, the Concord

grape needs no protection in winter; and that "they find at the West that one man can take care of five acres of grapes, and the same thing can be done here."

Fourthly—As to *profits*, Mr. Bull makes the following statements:

From the records of the Agricultural Society of Wirtemberg (in Germany)—which records have been kept for more than four hundred years—about one half the number have been tolerably favorable seasons for the grape, both as to productiveness and the quality of the vintage.

The average yield of wine throughout Europe is about two hundred and fifty gallons per acre, worth, at twenty-five cents a gallon, sixty-three dollars an acre; or, for the twelve millions, two hundred and eighty-five thousand, and seven hundred and eighty acres under cultivation, somewhat more than seven hundred and seventy-four millions of dollars.

But in this country, where such large quantities of the fruit are sold for the table at good prices, and where the yield per acre is much greater, Mr. Bull claims that the profits greatly surpass those secured in Europe. He states that Col. Hussman of Missouri — fifty miles west of St. Louis—gets nearly nine tons of grapes, and makes a thousand gallons of wine to the acre! This, however, is an extraordinary yield; for the average product of the vineyards in Missouri is from 250 to 600 gallons of wine to the acre; and the yield of the Catawba grape, on Kelley's Island, Lake Erie, is only three and a half tons to the acre. Yet Mr. Jode of Burlington, Iowa, took 8,860 pounds of Concord grapes from half an acre, which had been planted but four years—this being the first crop—while a gentleman in

Worcester County, Massachusetts, has gathered crops from his vineyard the value of which has averaged 1700 dollars to the acre.

Mr. Bull does not think the situation of his own vineyards very favorable, but states that he has raised seven tons per acre; and that last year, which was an unfavorable one for grapes, he gathered five and a half tons per acre, while for seventeen successive years he has not failed to have a good crop. He regards seven tons of the Concord grape per acre as a fair average yield for a vineyard well established, in a favorable aspect, soil, etc., and states that a ready market is secured for the crop at prices which have steadily advanced from ten to twenty cents a pound, while at ten cents the full crop of an acre would amount to $1400, and at 20 cents to $2800.

These amounts seem fabulous. Nevertheless, Mr. Bull states, on his own knowledge, that $2000 per acre was realized in 1865. But let us suppose the average crop to be but $3\frac{1}{2}$ tons per acre, and the price but ten cents per pound, this gives $700 to the acre.

I visited some of the vineyards in Concord last year, and, on making inquiries as to the matter of profits, I was convinced that Mr. Bull had not overstated the results. A proprietor of one of the small vineyards informed me that his net profits for the preceding three years—one of which had been unfavorable for grapes—had been an average of $996 per acre.

But, may not the market be glutted, and the prices be so reduced as not to be remunerative? This question is discussed by Mr. Bull, and satisfactorily answered in the negative. Moreover, it is worthy of remark that no one apprehends a glut in the market for apples,

when planting an orchard of that fruit. The truth is, that, ever since the temptation in Eden, the appearance of good fruit awakens in beholders a desire for it; and it makes a market for itself to such an extent, that, taking the average of seasons, it pays well.

As I have referred to the apple as an illustration, permit me to close this long digression with the remark, that *an acre of ground will produce more pure wine than pure cider*, and begin to yield several years earlier; and that while a first rate quality of either article can be made only by the exercise of neatness and care, wine may be made as easily as cider, and when made, as it should be, from the right kind of grapes, well ripened, the pure juice needs no water, nor sugar, nor extra ingredients, nor "doctoring" of any sort, to preserve it.

When I contemplate these facts, and see around me so many localities that would be eligible sites for vineyards, used as pastures, lean and poor, or planted with some of the ordinary crops, I am reminded of the Spaniard who lived in poverty and died of starvation on a piece of land that covered a gold mine; and when I see how slowly these facts attract the attention of our farmers, I cannot but think of the long occupancy of California by the Jesuits and Spaniards, without the suspicion that they were actually in El Dorado, which, for centuries had excited the hopes of these adventurers, and where, with simple spade and pickaxe, they might have dug more gold than they had dreamed of in their wildest imaginings.

But let us return to our subject. Not every farm presents the proper aspect and soil for a vineyard, and the most of our cultivators must be content to raise some other products. Consequently, having well con-

sidered what crops his farm is best adapted to produce. the matter of *concentrating capital and labor upon it*, is worthy the careful study of each farmer.

The common fault in New England is that of attempting to cover too much surface, to have too great a variety of crops, so that the cultivation is not so neat, so thorough, nor so profitable as it ought to be. I have referred to a style of planting which gives to the fields the appearance of a checker-board, with very small squares, and which, apparently, proceeds on the principal that a large variety, though planted on a thin soil, insufficiently fertilized and half cared for, will make up for heavy manuring, deep ploughing, and clean, careful cultivation.

In keeping with this mode of raising the crops, is that method of selling them, which, for the sake of getting the retail prices, spends valuable time in taking small quantities to market and peddling them out, frequently occupying a day, which would be worth two dollars if employed in getting out the muck, working it over and spreading it on the farm, in disposing of articles that do not bring more than two dollars in cash. But while we could not approve of such a style of doing things, neither would we recommend ordinary farmers to attempt competition with, or even imitation of, those of their neighbors who pursue expensive methods—methods which look rather to the style than to the profits of farm management. The latter, ordinarily, are gentlemen famers, who have a prosperous manufactory or mercantile establishment, or a quantity of stock in banks and railroads, on which they can rely for the means, so that, in the farm buildings, the laying out of their fields, the fences, the fertilizers employed, the trees

planted, the implements and animals with which the farm is stocked, and the hands by which it is worked, little regard is paid to the expense, but the endeavor is to have everything excellent of its kind.

It is very pleasant to have such establishments sprinkled in among the farms of a given district. They furnish striking examples of what may be done in the field, the garden, and the stall; and their influence in improving the general style of cultivation and management around them is, confessedly, very great. Those who can afford to establish and maintain them are, or *may* be, public benefactors; but our farmers generally must be content to learn what they can from both the successes and the failures of such high farming, and to follow at a respectful distance. They can neither put up such fences and farm buildings, nor go so largely into drainage and irrigation; nor purchase such costly fertilizers; nor own such expensive horses, cattle and sheep. Nevertheless, they can see the importance of concentrating expenses and labor on a smaller extent of land, and in a smaller number of animals. If the same amount of manure and labor will give as much profit on one acre as if spread over two acres, leaving the one acre in better heart, and the two acres more exhausted than when they were taken in hand, then it is manifestly advisable to work half the number of acres in the superior manner; for, in a few years, both the amount of the products and the value of the land would be greatly enhanced. If a man can secure greater returns of cash from an acre of vineyard than from eight acres of corn or potatoes, then the cultivation of the single acre is better than that of the larger number. If the same amount of money expended in five sheep of a

particular breed, will give more wool and much better mutton, than if invested in ten of the ordinary lean, thin-wooled, long-legged fence-jumpers, better for his pockets, and for the *dispositions of his neighbors*, to purchase the five. If a few good cattle, of superior breed and qualities, will furnish more milk and butter, or more and better beef, than twice their number of "the common run," and if their increase is worth more, at three months old, than the progeny of the latter at six months or a year old, then the profits, to say nothing of the satisfaction enjoyed by the proprietor, would indicate the desirableness of having the better breed of animals.

There are men in Florida whose herds of cattle are numbered by the thousand, and one proprietor, about fifty miles south of Jacksonville, is said to own about forty thousand. But the animals, like all those of that region, are poor, little starvelings, scarcely equal to respectable goats; and, it is said, a dozen of them give not much more than a gallon of milk. This is worse than anything in New England; but we might find, in our own Commonwealth, perhaps, examples as little deserving of commendation. Concentration of capital in animals is evidently as wise as the concentration of expense in the cultivation of a few acres well, rather than spreading it over many acres. The advice of Virgil—"Praise large farms but cultivate a small one,"—is as applicable to our age and country as to Italy in his day.

It is time this matter was pondered by our farmers. The cheapness of land in this country has led to an ambitious mode of extending a superficial tilth over large surfaces, and congregating worthless animals on lean pastures, without proper regard to appearance or to profit. The consequence is a slovenly style of conduct-

ing agricultural operations, on the part of many, that is without a parallel in any civilized land. Take a drive, in almost any direction, in almost any neighborhood, and behold the numerous orchards festooned with caterpillars' webs, scorched by canker-worms, and dying out from the borers; and see the fields covered with the ox-eye daisy (white weed), the golden rod, and broad clumps of savin (juniper), while the road-sides are decorated with Canada thistles, and rendered dangerous by wild parsnips, poisonous sumachs and dog-wood, or disgusting with stagnant pools, and with vermin that seek refuge from the dying orchards in the superior fertility of the highway.

Why do we behold such things? They are the results of attempting too much. The man who tries to work more land than he can properly work, and to keep more animals than he ought to keep, can afford no thought, nor time, nor expense, for defending himself from the evils to which we have referred. *Clean* farming, and a due attention to his road-sides, are as impracticable for him as *thorough* farming.

Now the public has no right to prevent him from impoverishing himself by his mode of management; but it has a right to demand that he shall not make his farm a nuisance to his neighbors—and a nuisance it is if he converts it into a seed-bed and nursery for these plants and insect-pests, so that his neighbors are constantly supplied with fresh accessories, no matter how much pains they take to keep their own plantations clear and clean.

I believe it is admitted that the destruction of these evil plants and insects is possible in any given instance. It follows, therefore, that under certain conditions they

might all be exterminated. I have therefore thought that it might be expedient to enact laws offering bounties for the clearance of each farm and the highways contiguous thereto, from these pests, for the period of five years, and, at the end of that, declaring them public nuisances, which may be abated like any other offence of the same class.

If by some such measure each one should be induced to attempt no more than he can do thoroughly and well, there can be no doubt that the interests of individuals and of the public would be promoted. The results of a well-planned concentration would improve both land and stock, and the gradual extension of operations would mark the increase of wealth, and not, as is now too frequently the case, be an advertisement of incapacity and poverty. In this connection, the suggestion may be worth heeding, that *the New England farmer should not expect too large profits from his farm.*

Retired manufacturers and merchants are not a little prone to be impatient with their agricultural investments. In their business heretofore they have been accustomed to quick returns, and if "successful men," they have probably made large profits on short credits. Hence they are tempted to feel a little "grouty" when their farming operations are not attended with like results. But they overlook several considerations. It is manifest, e. g., that outlays for the purpose of display, or for the mere gratification of æsthetic tastes in farming, have in them no tendency to secure profits, while, in the warehouse and counting-room, the contrary may be true. In the latter case, the architecture, the furniture, and arrangements which attract attention, and please the eye, may be a species of advertising, and, as

such, may pay well. But analogous expedients will not increase the showers or sunshine, or the crops of a farm.

Our gentleman-farmer may also overlook the fact that actual improvements, whether in the quality of the land itself, by manures, drainage, or extra cultivation, or in the fences, buildings, implements, and farming conveniences generally, are of the nature of permanent investments, which may add to the intrinsic value of the farm without immediately increasing its profits. If so-called improvements do not add to the intrinsic value of the farm, they surely should not be set down in the account against it. For it is not answerable for the mistakes of its proprietor. If a gentleman puts up shooting-boxes, boat-houses, kiosks, fancy barns, massive walls, with extensive conservatories and flower gardens on his place, and indulges in fancy horses and showy equipages; these must be regarded as so many expenditures for personal gratification; and ought no more to be included in the outlay for which the farm should yield returns, than the amounts which are expended for pictures to be hung in the parlor, and for concert tickets, or in visiting Saratoga, the White Mountains, and the sea-side, should be reckoned as capital invested in business, on which the ledger must show a fair balance of profits.

Moreover (and none know it better than do our business men), the amount of returns justly to be expected from an investment, depends somewhat on the safety of the latter; if it be perfectly secure, the income may very properly be much smaller than where there is more or less risk. But if this principle be applied to the matter of farming, it will follow that the profits derived from it ought to be smaller than those of most other forms of business in which capital is employed. Nothing can be

safer than a well-advised investment in a farm; since the intrinsic value of the land is subject to none of the mutations which affect almost every other form of investment, in the midst of those political and financial crises which sweep over our land like successive tornadoes.

Again, it is worthy of notice that all the returns received from an outlay of capital, are not in the form of money. An expenditure made in one direction may result in honor and influence—as when an aspirant for public favor contributes to an electioneering fund.—Made in another direction, the return may be in the form of personal enjoyment—the gratification of taste in the appearance of a splendid equipage, or in works of art, as paintings and sculptures, or architecture. But why should not the pleasure afforded by the appearance of flocks and herds of fine animals; by the sight of grassy meadows and growing crops; waving harvests and flourishing orchards and purple vineyards; why should not the enjoyment which these things always afford to the lover of nature, be regarded as an important item in reckoning with the farm? I think myself not entirely a stranger to the fascination there is for certain minds in works of art. I am not wanting in those impressions which the artist seeks to awaken, when with a master's hand, he rounds the marble into magic forms of life, or makes the canvas glow with the varied features of the landscape; but were I possessor of a well-situated and well cultivated farm, I know that from the contemplation of its changing aspects—the swale and swell of meadows green, the waving luxuriance of cultivated fields, the thrift of trees and vines, bowing and swaying under their burdens of purple and gold; and the show of animals, (sheep, cattle, and horses), browsing on the pas-

tures, or reposing in the grateful shades; I should derive more pleasure than from all the sculptures and pictures that ever crowded palace halls and palace walls.

Consequently, while men pay their five, ten, twenty, fifty thousands of dollars for single works of art, should not he who indulges his æsthetic tastes in a generous farm, reckon as of something worth, the exquisite and constantly renewed pleasure he derives from it? and, if he looks so exclusively or so greatly to the gratification of taste in his methods of farming, should he not remember, when the pecuniary returns prove to be small, that the less satisfactory works of art are simply and only a dead weight upon the pocket?

Let us also bear in mind that refined enjoyment can be derived from a farm by those who can neither purchase costly works of art, nor indulge in expensive methods of agriculture. One's farm may be small, and his means may be limited, but if he exercise wisdom in concentrating and managing such expenditures of toil and money as he can bestow upon it, he too will have his share of true enjoyment, as he will also secure his measure of thrift.

Finally, we would suggest that each proprietor of a farm should read and think about his calling and his farm. There is, or has been, a senseless prejudice among certain farmers against books and treatises devoted to their calling; a vast deal of "cant," and not a little attempted concealment of mental sluggishness, by an outcry against "book-farmers" and "book-farming." If there is any man or set of men in danger of trusting too entirely to books, and discarding practice in their agricultural operations, then let some one whose methods are faultless, and whose success is great, exhort them to drop

the books and follow his example. Till such cases occur we must think that the reading of well-written works on his calling, and devoting much careful thought to the subject, will be necessary to the highest success of every farmer. The truth is, the world is greatly indebted to those who have thought and written upon Agriculture, and also to those whose studies have related to the general topic, whether their field has been that of Natural History or Natural Philosophy; whether Comparative Anatomy, Entomology, Meteorology, Botany, or Chemistry. The improvements in stock, fruits, crops, implements and methods of farming, are made by men who read and think; and the man who talks most about the superiority of practical farming, is indebted to some "book farmer" for that which is most valuable in the animals, the crops, the fruits, and the implements on his farm, and for the best modes he pursues in working it. Nay, the grain crop and the hay crop of the present season which have saved the nation from famine, from calamities greater even than those of war, could not have been gathered without the aid of those machines which have been given to the world by ingenious inventors, i. e. by men who have devoted long and intense thought to these things; and who, seeing the demand, have sought to meet it, and thus to lighten, facilitate and render more profitable the toils of those engaged in cultivating the soil. In saying that the farmer should read and think upon his calling, we only affirm, that in common with every other man who pursues a regular vocation, he should thoroughly understand his business in all its details and relations, and should make the most of it and of himself.

It is too late in the day for ignorance to conceal itself

a false issue on this subject, or to secure honor and behind success in a pursuit so respectable and so difficult as that of farming. In one of his admirable and instructive Annual Reports, Mr. Secretary Flint quotes the saying of a celebrated painter, who, on being asked what he mixed his colors with to render them so perfect, replied: "I mix them with *brains*." That is the material with which every man should "mix his colors," and the farmer no less than any other man. He should rear and use his animals, fertilize and cultivate his fields, select and dispose of his crops, "with brains;" and for these purposes he should use both his own brains and those of other men, to as great an extent as possible. Let him, therefore, co-operate in the establishment of Farmers' Libraries and Reading Clubs. Let him take, and read, the best agricultural journals; let him use wisdom in selecting, and industry in studying the best works on agricultural chemistry, horse, cattle, and sheep raising; on bees, and on grapes, and other fruits; also the various writings of practical farmers, gardeners, and nursery-men. If he can, let him procure, and carefully read the Annual Reports of the Massachusetts State Board of agriculture, and especially the discussions of that Board. Let him pursue such a course of reading, meanwhile not neglecting his Bible. In other words, let him be a thorough, intelligent New England farmer, and a good, intelligent New England Christian, and he may enjoy as much of Eden, here, in Essex County, Massachusetts, as any of Adam's race have enjoyed since the gates of Paradise were closed.

With many thanks for the attention you have given to these remarks; with sincere wishes that each of you may live to see many returns of this Annual Festival of

your Society, attended by that constant improvement in the great Agricultural interests which you so wisely and generously seek; and with congratulations on the success which a kind Providence has bestowed upon the labors of our farmers the present season, I hasten to, what I know you are anxiously awaiting, my last word.

FORTY-SEVENTH

ANNUAL EXHIBITION

AT HAVERHILL.

The Annual Dinner was served to a large assembly of the members of the society and their friends and invited guests. Every seat at the table was taken, and the hall filled with other spectators. After prayer by Rev. Mr. Kingsbury of Bradford, about an hour was spent in discussing the merits of the eatables, after which the assembly was called to order by the following remarks of the President of the Society, Gen. Wm. Sutton of South Danvers:

REMARKS OF THE PRESIDENT.

Ladies and gentlemen,—Revolving time has once more brought us together, to show the works of our hands and to consult together upon the interests in which we are engaged. We welcome you to this our anniversary. This Society is now nearly half a century old. It was organized in 1818. Its first Exhibition

was held in 1820. From that time to the present we have gone on increasing in numbers and in wealth. Its property at the present time amounts to something over $11,000, all invested in stocks, which would sell to-day for over $12,000. It has a valuable library, it owns a farm, and I call that success for the Essex Agricultural Society. And now, my friends, for the first time for many years we are honored with the presence of the Chief Overseer of the old Massachusetts Farm, and I have now the honor to present the Governor of the Commonwealth of Massachusetts.

REMARKS OF GOVERNOR BULLOCK.

Mr. President,—There is something unique about the old Essex Agricultural Society which interests me. This is one of the oldest societies in the United States; and the ancientness of its organization makes it venerable. Then, I believe, your county is an exception among all the other large counties by having only one chartered agricultural society; and that fact gives to it an added dignity. I hear that you own no exhibition grounds or buildings, and that, like another Essex Institute, you make the circuit of the county, dispensing good equally over the whole. They tell me, also, that more nearly than others you adhere to the traditions and customs of the founders, and that you have not entirely given way to the modern horse heresy which is sweeping so many of us into its vortex. In short, here in the county of Essex, which has more cities than any other county of the Commonwealth, where the mechanic arts are at their height, and the air murmurs with the stitcher

and the clicker, with the spindle and the loom, I find myself confronted by a society which has made agriculture keep pace with the other pursuits, which has blended the element of progress with the element of stability, and which, sitting in the shadow of the name of its early benefactor, TIMOTHY PICKERING, surveys and judges calmly the busy scene of life, welcoming that which is good, and rejecting that which is not essential.

I cannot help thinking that on many accounts your circumstances are felicitous. They have surely proved felicitous for your own profit and contentment, and I must regard them as equally fortunate in furnishing to others an illustration and a model worthy of study, and in a great measure worthy of copying. The conditions and relations of industry in Essex present an example which is full of suggestions to all communities that would be prosperous and happy. They show a people who are devoted exclusively neither to agriculture nor to manufactures, nor to the mechanic arts; but they exhibit a community which is proportionately devoted to each and all of these. And it is, perhaps, the happiest circumstance of all the array of facts before us, that while the intense and absorbing growth of your manufactures has overshadowed the more modest and patient pursuit of cultivating the land, yet they all render today, and on every occasion, their grateful obeisance and homage to agriculture—which is patriarchal and parental—which is always first and which can never become secondary. As the sons in a modern family, who have gone beyond the aspirations of their ancestors, and have successfully extended their enterprize over adventurous fields of which their fathers never dreamed, still date all success from the fountain head of the virtues of the

original stock, so, here and now, in Essex County, and in all of Massachusetts, this great and triumphant system of mechanism and manufacturing, which takes apparently the honors of the day, at all times acknowledges to have received its blood and impulse from the parentage of agriculture, which gave to it life and has supplied its virtues. The fraternity of all these interests which makes Essex what she is, appears symbolized in the varied life of the county, and speaks upon this occasion from the hundred tongues of a diversified but united republic of labor. And all these voices and ascriptions mingle in one accord of common tribute to the society over which the old revolutionary patriot of the county originally presided.

Two lessons of political economy and social happiness we may learn from the existing condition of the public industry in this powerful county. The first is, that a purely agricultural community cannot, unaided, realize the ideal of an organized and vigorous civilization. Poetry and romance might content themselves with annals of Arcadian simplicity and purity; but the progressive advancement of Essex in the last thirty years has added to the cultivation of the land other departments of skill and labor which have changed the ancient scene. While the farming interest has been constantly increasing in importance, dignity and profit, other interests have started up by its side and have imparted to it a new impulse and stimulus. Rockport, from its depths of granite, builds streets in distant cities; Haverhill and Lynn, in their work upon the skins of animals brought from remote shores, have compacted a population of thirty to forty thousand; Lawrence and Newburyport and Andover engage nearly as many more upon the

machines which yield their product to every part of the Union, while Gloucester and kindred ports launch their enterprize upon the sea. Your county is full of intense life, competition of business, sharpness of the faculties, contact and collision of minds, populous growth, and accumulations of wealth have come of this modern uprising of genius and skill, and art and manufactures.

But the second lesson is, that the employments of agriculture have reacted with an effect of beauty and felicity upon the other and more active departments. It amply repays them for their markets by preserving and strengthening their virtues. Commerce and the arts create the town; agriculture keeps good and pure the country; and that State is happiest in which town and country reflect upon each other the advantages and the graces of both. In such a population as yours, comprising these two conditions of society, rural life communicates through all the avenues of the city the purity of its manners and its tastes; while liberal thoughts and liberal arts proceeding from the city impart their invigorating forces to the country. The concentrated activities of the one blend to mutual advantage with the calm and serene occupations of the other; the social sympathies of both gather strength by the union; and a Commonwealth of homogeneous character springs up out of the diversities of labor, one and indivisible in interest and in sympathy. Such is the county of Essex, such is Massachusetts. It has happened in the last twenty-five years that increasing numbers of our fellow-citizens, having their business in the metropolis or in the other cities and larger towns, by reason of railroad facilities, and from sanitary and moral considerations, have established their homes and their hearts in the

country. By their liberal investments in a studious and methodical culture of the soil, and in improving the quality of the animals, they have rendered a beneficent service to the cause of agriculture; and, in return, receiving by contagion the sweet influences of the heavens and the earth which have been spread out before them in the open country, and which have inspired them with sentiments far above the thoughts of ordinary commerce, they have carried back to the marts of business a new and more genial soul, which spreads like sunlight over others, and warms them to follow the example.

Mr. President, when I think of these indirect blessings which even the lighter attention to agriculture has conferred upon a great class of our people whose leading interests are in other pursuits, it appears to me that we ought to encourage and spread the example. In a large number of these cases it may be called sentimental, but it is none the worse for that. Of sentiment, which is quite too frequently called sentimentalism, we have little to discard or to spare in our life of routine and practicality. If the country boy, converted into a metropolitan merchant by years of application and engrossment amid the cares and perils of the town, shall be drawn back to his early love, whether by instinct or interest, or accident, he becomes only justly as he should be, the benefactor of the class among whom his own first breath was born, and his own heart first was moulded. Though you may call him a benefactor, he is a debtor still to them. Within the past few years it has been my opportunity to lodge in this county under the roofs of several whom we know as merchant princes in the capital, but whose greater and more genuine wealth lies in the exaltation and expansion which agri-

culture and country life has bestowed upon them.—This is truthfulness to nature. This is the higher and better part of our social existence. Mr. Wordsworth many years ago impersonated this sentiment in one of his poetic characters, which he found in real life. In the neat and beautiful poem of "The Farmer of Tilsbury Vale," he traced the career of a husbandman, who, compelled by misfortune to give up his country home, dragged out his remaining days amid the trials and hardships of the crowded city. But his heart never lost the fragrance of his early occupation:

"'Mid coaches and chariots, a wagon of straw,
Like a magnet, the heart of old Adam can draw;
With a thousand soft pictures his memory will teem,
And his hearing is touched with the sounds of a dream.

Up the Haymarket hill he oft whistles his way,
Thrusts his hands in a wagon, and smells at the hay;
He thinks of the fields he so often hath mown,
And is happy as if the rich freight were his own.

But chiefly to Smithfield he loves to repair,
If you pass by at morning, you'll meet with him there.
The breath of the cows you may see him inhale,
And his heart all the while is in Tilsbury Vale.

Now farewell, old Adam! When low thou art laid,
May one blade of grass spring over thy head;
And I hope that thy grave, wheresoever it be,
Will hear the winds sigh through the leaves of a tree."

At the conclusion of Gov. Bullock's remarks, which were frequently applauded, the President introduced Gen. Banks, who was greeted with a perfect ovation of

applause, which he acknowledged in the following speech :

REMARKS OF GEN. BANKS.

Mr. President, Ladies and Gentlemen,—It gratifies me to be present with you and participate in the exercises of to-day, and I only regret that I have been deprived of the pleasure of attending with you throughout the whole of this interesting and instructive occasion, but accident deprived me of that privilege. I understand, of course, that it is the privilege of the President to set every citizen up upon this platform, in this free country, to make sometimes a poor exhibition of himself. He has put me in that condition. I am worse off than anybody else in this assembly, for I have nothing to sell, nothing to show, and nothing to say. It is a good thing not to be a Governor—if His Excellency will pardon me the remark—for it is his duty to break the ice upon these occasions, and, as these gentlemen on my right, and upon my left, and in front of me will find, when they come to occupy that position, it is no easy thing to do. It is said by those skilled in eloquence that if a man only can read the thoughts of his auditory, he has no trouble at all. I think that His Excellency the Governor must have had that second sight. At any rate I owe him thanks, for he has, by his eloquent, inspiring and enthusiastic statement of the advantages of the day which you celebrate, done so much that I feel, if I could read your thoughts, there would be nothing for me to say, or for you to desire. Or, as Binney, the English butler, says, when asked to make beer, "I 'av'n't the 'ops." I might content myself with

saying, when asked by your President to make a speech, I have not the thoughts. It is many years since I was here. If I dared to remember, I should say it was as early as 1854 or 1855 that I was last present in this very town to participate in the last celebration of the anniversary of your society which I had the honor to attend. I remember it perfectly well. It was an out-door affair, small in numbers, with no such a feast as this, with no such an assembly as this. There were wooden benches and bare tables, and little to commend it except the eloquent speeches of distinguished gentlemen who were present. If the vegetables and the cattle of the county have improved as much as the people, I would like to see them; for, as I now look upon this assembly, and having hurriedly ridden through your town, by the kindness of a friend, I can say that any city or any town would have reason to congratulate itself upon the success of its industry and the prosperity of its devotees.

Ladies and gentlemen, this year is an era in the industry of the world. From this year of 1867 will date a new future—a future that shall not tend to discord, wars and quarrels, and that shall bring the whole intellectual power and spirit of the nations of the earth to the expansion and the enlargement of the pursuits of industry. I regard the exhibition of the world's industry at Paris as the most memorable event of modern times; and although there might be justification for dwarfing it in comparison with victories or defeats of armies or nations, in battle, if we could (which we cannot do) measure and correctly weigh the consequences of the exhibition of the world's industry in the capital of France this year, we should be willing and able to

say that no event would compare with it in its importance to the people and to the interests of civilization. I am gratified that Americans have done so much to highten the effect of this rivalry of industry of the peoples among the nations of the earth. I did what I could to enlist the Government in its favor, and to promote among the people a larger desire for participation in it than they enjoyed, but I did not expect, when I did this, that we should be justified in the expectation of achieving a triumph like that we have accomplished. A recent letter from Mr. Beckwith, the American Commissioner, states that out of five hundred American exhibitors, three hundred prizes of awards have been given—a half larger proportion than has been attained by any other nation, not excepting even England or France. And this is nothing at all compared with what might have been gained by our citizens, if our country had been properly and fully represented. But it is not in the power of awards that we find the testimony of the world in behalf of the superiority of American intellect as devoted to industry. In those great powers that direct and shape the future we have been first, if not without a rival: in the locomotive that extends civilization throughout the world; in the electric telegraph that annihilates space and time; in the sewing machines that give comfort to every family in the land; in the piano forte that makes harmony and household pleasure, and extends to all the children of our country and of the world, the participation in this divine inspiration and power; in the agricultural implements that supply the place of exhaustive and inefficient labor—in these we have been the first and received the first prizes at this exhibition. But there is one point which touches me

more nearly, and gives me great gratification. The civilization of the world turns to the element of productive labor, and of course the protection and encouragement and fostering of that element of the prosperity and strength of the nation hereafter, is an important matter. In a neighboring town through which I passed, I saw today a manufactory devoted to articles known and used everywhere, the material of which during the memory of man had been waste and utterly useless. The greatest triumph that ever is achieved in the civilization of the world, in anything appertaining to material affairs, is to create a new and national wealth out of that which had no value, by means which before had been unknown.—That man who can do it is a creator, and belongs to the creative properties. The Ratan factory is an institution of this kind; and there is scarcely a household in the whole country, or ultimately in the world, where its products will not find a place, and confer benefit and impart luxury; and yet this has sprung from the mind and genius of a single citizen of this county. If it were alone it would be of no account; but I see in this district for which I speak—I see in this district of which you are citizens—the origin of all the successful manufacture or industrial prosperity of this country. In the town in which I live, the man resided who created the cotton manufacture and made the machinery—who invented the process—who collected together under one roof the several processes which had been known before, and added to them others which will make this branch of human industy one of the most successful, one of the most powerful of the world. In my judgment, Francis C. Lowell, for whom the city of Lowell was named, was the greatest American this country has produced. I

know in what degree to estimate men who, by official position, have been able to produce great results; but here is a man at twenty-two years of age, invalided, without physical strength to discharge the ordinary duties of life, a prisoner on board a British man-of-war, looking at the flag which domineered the seas of the world—here is a sick man, a prisoner, a youth who without friends or capital, without any adventitious aid, by his own inventive genius, created a power that rules the commerce of the world. The cities which have sprung up around us are his monument. Other nations have copied his machinery, and now to-day the world gives to the city that was the result of his genius and his enterprise. the credit of having devised the most perfect development of industrial means that history has known. That is not alone. The shoe interest is another of the same character. Shoes have been made from time immemorial, but the genius and enterprize of Essex County monopolizes the manufacture and makes every part of the country subsidiary either to its products or the processes which it has invented. In my own town this characteristic is more prominent than perhaps any other. The watch, which is as perfect a time-keeper as can be suggested, is made from the roughly-shaped materials given to boys and girls in the morning, to come out from the manufactory a perfect time-keeper and measurer of the days of men. All this is done by a new process of manufacture invented here, which is filling the world with its products. Everywhere I see the evidences of this genius and power.—Let the men who are learned in the world's history; let the men who have studied the various periods of civilization; let the men who know about these matters

in France, or Germany, or any other country; let the men who know the history of the United States; let them who know as well as his Excellency the Governor the capacity and power within the Commonwealth of Massachusetts, point me to an exhibition of such success and such genius, such power and such far-reaching influence as can be seen in the manufactories of Essex and Middlesex counties. We have every reason to rejoice at the success which attends us in this contest of the nations of the world. We have every reason to be proud of that success which has been achieved by our fathers, and to rejoice in the prosperity which their genius has given to us; but it belongs to us to remember that our duty is of the future, and not of the present or of the past; that our pride must be, not in what our fathers have done, but in that which we shall do. Let us remember the field in which we are called to labor, as yet far wider, far more expansive; that we are placed, as it were, on the threshold of seven hundred millions of the people of Asia; that we contend foot to foot with the hundreds of millions of Europe, and that wherever we are, we are put upon an equality, and that the great contest is for the superiority. Many years ago I spoke in this room. I am naturally affected by the associations of the time and place; and although this is no occasion for political suggestions, yet I trespass upon your good nature to say that I trust the day is not far distant when all the disturbing elements of our social and political organization will be removed, and that, with the power to be a free government, the American people, with a genius like that of Essex and Middlesex, will hew its way through the thick ruins of the despotic traditions of the old world, and by their genius and success impart

to other nations an idea of what a people left to themselves can do. There was one thing that I wish we should exhibit more extensively in the Paris Exhibition than we do, and that is our people. I regret not that so many of our people went abroad; I only regret that there were not five, or ten, or twenty millions of them to show themselves to the European nations. They know but little of us across the water. A cultivated European told me that Mr. Chambers of Edinburgh, the celebrated publisher, ten of whose works are sold in America to one in Great Britain, said to him only a few years ago, that he was surprised that a man of such decent appearance should live in such a country as America. I remember, too, that the *Moniteur* in Paris published the fact that the Speaker of the House of Representatives, some years ago, was a negro. Perhaps he believes it now, and may be that he foreshadowed the time that is to come. But the fact shows that in the capital of France they knew very little of Americans, or of America, at that time. It is not the fault of European nations, but our own. Ladies and gentlemen, I am delighted with the opportunity of being here. If you are as much pleased to see me as I am to look upon your faces, you are in a comfortable condition. I regret I have not been here in the discharge of public duties; but I have been absent for some time, and have been living a sort of checkered life of late; but whether here or whether elsewhere, let me assure you that the memory of the past of Essex and Middlesex have always been and always will be my pride.

NOTES ON THE EXHIBITION.

The Exhibition of Fruits, Domestic Manufactures, &c., in the Hall, was conceded to be of the highest character, and that of stock in the pens was very satisfactory, though not so large, or of so decidedly superior character as it is in the power of the farmers of the county to furnish, and as may reasonably be expected in response to the very liberal premiums offered in that department.

The show of Agricultural Implements and Machines was never surpassed, probably not equalled, in Essex County.

The Ploughing Match was well contested by a large number of teams, and was particularly noted for the trial of skill between seven boys under 19 years of age, in competition for the premiums amounting to fifty dollars, offered by the President of the Society.

The entries of Stock numbered 103—animals, 175.

Entries for ploughing, 24 teams, comprising double and single, ox, horse and mule teams.

Entries in the Exhibition Hall, 735, comprising 1000

plates of Fruit, and a great variety of Vegetables, Dairy Products, and articles of Domestic Manufacture.

The description of the Exhibition in the Hall, which follows, was written by Warren Ordway, Esq., the efficient superintendent of that department. and is worthy of special attention. Secretary.

The Exhibition in the Town Hall was superior to any other that the Society ever gave. The whole of this spacious and elegant building was generously given up by the town authorities to the Committee of Arrangements, which gave them ample room to display to the best advantage a great variety of products from the farms and work shops, the parlors and kitchens of this time-honored county. The broad halls upon the first floor of the building, were partly occupied by carriages and sleighs. The side hall upon the same floor was devoted to vegetables, of which there was a very creditable show, especially from the farms of Messrs. S. A. Merrill of Danvers, and Richard Webster of Haverhill. The large hall which is upon the second floor, with the side rooms adjoining, were overflowing with the greatest variety of the finer productions of nature and art. There were four tables spread lengthwise of the hall, filled with one thousand plates of most excellent fruit, comprising the most extensive assortment of apples, pears, peaches and grapes, that was ever exhibited in the State outside of the city of Boston. Two tables were devoted to fancy work, embroidery, and general merchandise, upon which also were show-cases containing silver ware, lamps, and dry goods. In other localities were cooking-

stoves and tin ware, sewing-machines and musical instruments, paints and paper hangings. The walls and the front of each gallery were hung with quilts, counterpanes, rugs, and affghans. Many of them were very beautiful, and when taken together this part of the exhibition reflected great credit upon the industry, ingenuity, economy and taste of the fair contributors.— One of the side rooms was devoted to butter and cheese. One to bread, honey, domestic wine and preserved fruit. One to boots and shoes, doors, window sashes and blinds, and another to machinery and curious inventions. The rostrum in the hall was wisely selected for the floral display, and by the exertions of an efficient committee, three hundred boquets and floral designs with one hundred varieties of wild flowers were contributed by the ladies in the vicinity. These were arranged by Mr. West, the chairman of the committee, whose magical power in this department never fails to produce the most beautiful effect. Last, but not least, came the crowd of delighted visitors filling the spacious hall, with the galleries to repletion. They were welcomed by the artistic music of the Haverhill Band to enjoy amidst the aroma of fruit and the perfume of flowers, the fairy scene that had been prepared for them, and the pleasure it afforded was duly acknowledged by the universal exclamation. "It is beautiful."

REPORTS, &c.

FAT CATTLE.

The Committee on Fat Cattle, report an award of the

1st premium of $10, to Mrs. M. P. Little, of Bradford, for her off ox.

2d do. of $8, to Mrs. M. P. Little, for her near ox.

3d do. of $5, to James H. Reynolds, of North Andover, for his near ox.

It will be seen by our award, that the first and second premiums are given to the same pair of oxen; as the offer was made, we felt bound to give them to the best animals; yet we have some doubt of its being the intention of the Society, to give two premiums to one pair of oxen. To us, it appears more desirable to offer the premiums for the best *pair* of fat cattle, as most of the oxen that are fattened in this County, are those that are kept in part for their labor, and we wish to get all the information we can upon working and feeding oxen, so as to fit them for beef.

We think that there should be separate premiums given for fat cows, for we cannot expect them to compete with oxen, consequently we never see them at our exhibitions. As most

farmers are annually obliged to fatten some of their cows, it would be well to get what information we can about feeding them. Many farmers let their cows dry up their milk, and then put them to pasture, to fatten. Others, by high feeding, keep up the flow of milk in part, and make them gain, so as to dispose of them to the butchers. Where milk is in demand and pasturing scarce, this is perhaps the best method, but such cows do not often get fat enough to compete for a premium.

In the statements given us we undoubtedly have the truth, so far as it goes; but "doing all the work upon the farm, and working out some by the day," is rather indefinite. On some farms, we think the oxen would not gain much. We can not, in this County, raise cattle exclusively for beef, as they do at the West; but we need oxen, to some extent, to carry on our farms. On many farms the work may be done, and the oxen be continually gaining.

At the time we awarded the premiums, we were not aware that Mrs. Little's ox took the third premium last year; but since then we have learned that he did. If we could have known the entire amount of hay and grain consumed by them during the year, it would have been valuable information. Our impression is, that cattle that are in a high condition as these have been the past year, or, as we sometimes express it, "well filled up inside with tallow," do not consume so much fodder as poor cattle of the same size. The philosophy of this, we do not attempt to explain; but our observation has led us to this conclusion.

It will be seen by the statement of Mr. Reynolds, that his oxen have gained rapidly. We have heard it stated, by those who have had good opportunities to know, that the live weight of an ox at different seasons of the year, is not a true index of his gain. They say an ox will weigh as much alive in March, as he will the first of June, yet be fed so as to keep him gaining all the time; or in other words, the shrinkage is more at some seasons, than at others. The condition of the stomach

at the time of weighing, will make probably two hundred pounds difference in the weight of a pair of large oxen. His cattle had a very thrifty appearance, and we hope he will keep them another year, and show that they have continued to gain as fast as they have done since he has had them.

Committee—William R. Putnam, James T. Carleton, Wm. Foster, George W. Davis, Isaac Carruth.

STATEMENT OF J. H. REYNOLDS.

North Andover, Sept. 23, 1867.

I present to your notice for premium, one pair of fat oxen, 5 years old, purchased by me in Cambridge, the 20th of last June; they then weighed on North Andover scales, 3710 lbs. Since that date have done all the work on the farm, besides working out some by the day.

Their feed has been common pasturing, until September 1st, since then, have each had two quarts corn meal, daily; weight this day, Sept. 23d, on North Andover scales, 4250 lbs.

BULLS.

The Committee on Bulls report:—

They award to Joseph Kittredge, of North Andover, for his Jersey Bull, 1st premium, $10.

To A. R. Fellows, of Ipswich, for his Jersey Bull, 2d premium, $5.

To William A. Russell, of Lawrence, for Dutch first premium Bull, in 1866, mileage.

Committee—George B. Loring, J. Longfellow, Jonas Holt George Cogswell, Stephen Nichols.

MILCH COWS.

The Committee on Milch Cows, report :—

That there were four entries, with statements. One, that of W. A. Russell, of Lawrence, did not conform to the rules of the Society, inasmuch as he did not give the amount of milk given in the first ten days of June and September, of this year. The amount given last year, as per statement, 5028 quarts, or nearly 14 quarts per day. Certainly, a remarkable animal, and one showing good care and feed. Would it not be well for some who may read his statement, to inquire how much their cows give on an average per day, for one year? For we are of the opinion that there are many kept in Essex County, that did not give more than one-third of the amount given by this cow last year, which were called good cows. We noticed this cow had two fine calves by her side, and hope she has imparted her milking qualities to her progeny. We recommend that Mr. Russell's statement be printed.

Mr. Seth Kimball, of Bradford, entered two very good cows. To one of them, his speckled cow Dolly, the Committee award the first premium of $15. They thought her not only a good cow now, but one which promised to excel her present excellence. They award the second premium of $10 to John M. Barry, of Haverhill, for his grade cow.

Jacob F. Jewett, also showed a good young and small cow, which with a little more generous diet will improve upon her present attainments.

For the Committee—Francis Dodge.

STATEMENT OF SETH KIMBALL.

Grizzled cow, 8 years old; breed, one-half Durham and one-half native; last calf second day of March last; next calf to be the 24th of March next; milk, first ten days of June, 17 quarts a day; September, first ten days, 13 quarts per day.

Speckled cow Dolly, five years old, breed, three-fourths Durhan, one-fourth native; last calf 1st day of April; next 29th of March; milk, first ten days in June; 19 1-2 qts. average; first ten days September, 15 quarts.

STATEMENT OF JOHN M. BARRY.

To the Secretary of the Essex Agricultural Society: I enter for premium, one grade Devon cow, seven years old. She calved March 15th, and will calve again the 28th of February, next. Her milk was weighed both morning and evening, on the first ten days of June and September inclusive, according to the annexed statement. Her feed has been a common pasture with other cows.

Amount of milk the first ten days in June and September.

	Morning.	Evening.		Morning.	Evening.
June 1.	19 lbs.	20 lbs.	Sept 1.	14½	15
" 2.	19 "	19½ "	2.	14	14½
" 3.	18½ "	20 "	3.	15	15½
" 4.	20 "	21 "	4.	14	15
" 5.	19 "	20 "	5.	14½	15
" 6.	18 "	19½ "	6.	15	16
" 7.	20 "	21 "	7.	15	16
" 8.	19 "	20 "	8.	14	15½
" 9.	21 "	22 "	9.	15	16
" 10.	20 "	11 "	10.	15	16
	193½	204		146	154½

Total for June, 397½; for September, 300½.

Average for 10 days in June, 39 7-10 lbs.; September, 30 lbs., ½ oz.

Haverhill, Sept. 23, 1867.

STATEMENT OF WM. A. RUSSELL.

The grade Durham cow I enter for premium has given, by actual measure, 5028 quarts of milk between December 1st, 1865 and December 1st, 1866. She brought in June 19th, 1867, a pair of twin calves, affording sufficient milk for both, and from three to four quarts beside, for about two months. Both calves are on the cow now, and I think she must now give 24 or 25 quarts daily. She has nothing but pasture feed. The year above mentioned she received extra feed through the winter—none after she was turned out to grass in May.

Lawrence, Sept. 24, 1867.

HERD OF MILCH COWS.

We report there were none that properly came before your committee. There were 18 cows presented by Wm. B. Carleton of Haverhill, for exhibition only ; and as a compensation for the interest he has manifested in our Exhibition, by presenting animals, which, when taken collectively, are by your committee considered of superior quality, we recommend a gratuity of $15, the highest premium offered by the Society on Herd of Milch Cows.

E. G. Berry, for the Committee.

HEIFERS.

The Committee on Heifers having attended to their duty, submit the following report :

The number of entries was not large, consisting of 3 three years old, 2 two years old, and 7 yearlings.

They award the first premium of $10, to Wm. A. Russell, of Lawrence, for his three years old Midwould Heifer,

The second premium of $6, to Wm. A. Russell, of Lawrence, for his three years old Heifer, "Fanny."

They award to Albert E. Emery, of Haverhill, the first premium of $5, for the best two years old Heifer.

The second premium to Eliphalet Davis, of Haverhill.

For the best yearling Heifer, they award the first premium of $5, to Seth Kimball, of Bradford.

The second premium of $3, to Wm. A. Russell, of Lawrence.

There were three lots of calves entered, only one of which, however, by the regulations of the Society, was entitled to a premium, the other two lots being deficient in number; and they award the premium of $6, to George E. Silsby, of Bradford.

Committee — George A. Abbott, Farnham Stiles, Hiram Goodhue, B. H. Farnham.

WORKING OXEN AND STEERS.

The Committee on Working Oxen and Steers, report :—

Seven entries of Oxen and three of Steers were made; but only one pair of Steers appeared and performed.

The entries were as follows, viz.,

1st. One pair of Oxen, five years old, weighing 2985 lbs. By William Foster, of North Andover.

2d. Two pairs of Oxen, one pair of which was seven years old and weighed 3195 lbs. This pair only was tried. By John T. Wood, of Boxford.

3d. Two pairs of Oxen, one pair of which only, six years old and weighing 3150 lbs., was tried. By Francis Dodge, of Danvers.

4TH. One pair of Oxen six years old, weighing 3100 lbs By Francis P. Putnam, of Danvers.

5TH. One pair of Oxen, five years old, weighing 2835 lbs. By C. R. Ordway, of West Newbury.

6TH. One pair of Oxen, five years old, weighing 3450 lbs. By Romelus Jaques, of West Newbury.

7TH. Two pairs of Oxen, of which one pair, seven years old, and weighing 3160 lbs., was tried. By Charles O. Cummings, of Andover.

8TH. One pair of Steers, four years old, weighing 2775 lbs., made the only trial of Steers.

After a careful observation of the performance of the different teams, some of which showed very careful training, (especially one driven by a young son of Mr. Dodge), the Committee award the first premium of $12, to Francis Dodge, of Danvers.

The second premium of $10, to John T. Wood, of Boxford.

But one pair of Steers appeared on the ground, and for their good performance the Committee award to R. S. Bray, of Newbury, the first premium of $8.

The attention of your Committee was called on the first day of the show, to a team of twenty-three pairs of oxen from the neighboring town of Bradford. It did credit to that good old town. The oxen in general were very good, and some were particularly so. Capt. Little's oxen took the lead on the team, and also at the show, of which he might well feel proud.

On the second day of the show, Bradford finds herself in the condition of the man who told the first story, for to-day Haverhill is represented by a town team of thirty-three pairs of oxen, drawing a wagon loaded with fifteen ladies from ninety to one hundred years of age, judging from their *dress*, and very good looking at that.

Your Committee have no right to report on Ladies at all, (and beg pardon for having transcended their duty), as they appeared to be in charge of a very competent Committee, con-

sisting of our worthy Ex-President, Mr. Dodge, and Mayor Huntington, who made their report on the field.

It afforded your Committee pleasure to see such noble teams from towns in Old Essex, which would do credit to a purely agricultural county.

Committee — Josiah Newhall, J. Longfellow, T. G. Ordway, John W. Kent.

STEERS.

The Committee on Steers report the award of the following premiums :—

To John Tarlton, of West Newbury, for two year old Steers, the first premium of $5.

To Alfred Kimball, of Bradford, for yearlings, the first premium of $4, and the second premium of $3.

Committee — James Nason, Joshua N. Kent, Abel Stickney.

STALLIONS.

The Committee on Stallions respectfully report :—

No entry was made for three years old stallions.

For four years old and upwards :

1st. Warren Perley, of Haverhill, enters a horse, full or partially thorough-bred, owned by Dr. Samuel K. Towle, of Haverhill. This horse, not being entered by the owner, but by another person, can not be entitled to a premium ; being precluded, as the Committee think, by the rules of the Society.

2d. E. Battelle, of Newburyport, the owner, enters a four years old, which we have carefully examined; and in our judgment Mr. Battelle is entitled to the second premium of $10, for this horse.

3d. George B. Martin, of Danvers, the owner, enters a six years old, which we have carefully examined; from which examination, and from reliable information otherwise obtained, and from the fact that the same horse has been heretofore favorably noticed by the Society in the way of premiums, the Committee do not recommend that a premium be awarded to Mr. Martin, at the present exhibition for this horse.

Committee — H. A. Bodwell, William Taggart.

BROOD MARES.

The Committee on Brood Mares, report:—

They award to W. E. Kimball, of North Andover, the first premium of $15.

To H. W. Cheever, of Haverhill, the second premium of $10.

To Herbert E. Wales, of Groveland, the third premium of $8.

There were several very fine Mares and Colts which would have received premiums, but in the opinion of the Committee, were unsound.

Committee — Joseph Kittredge, George B. Martin, Seth Kimball, George Dane, Joseph B. Spiller.

FAMILY HORSES.

The Committee on Family Horses report the following awards:—

To J. G. S. Little, of Haverhill, the first premium of $10.

To Jas. R. Nichols, of Haverhill, the second premium of $8.

Committee — Francis Sargent, William B. Morgan, Thomas K. Leach, Frederick Perley.

FARM AND DRAFT HORSES.

The Committee on Farm and Draft Horses, report:—

They award to James T. Carlton, of Bradford, the first premium of $10.

To R. S. Bray, of Newbury, the second premium of $8.

Committee — Benj. P. Ware, Royal Day, M. H. Poor.

COLTS.

The Committee on Colts present the following report and award of premiums:—

In the class of four years old, four were entered for premium.

To Orrin Ordway, of Groveland, the first premium of $10.

To S. C. Kimball, of Haverhill, the second premium of $5.

In the class of three years old, four were entered for premium.

To Romulus Jaques, of West Newbury, the first premium of $6.

To George Coffin, of Haverhill, the second premium of $4.

In the class of two years old, five were entered for premium.

To John Swinerton, of Danvers, the first premium of $5.

To T. Weed Quimby, of Amesbury, the second premium of $3.

The Committee deem it proper to state that two very fine Abdallah Colts were offered in this class for premium. It was difficult for them to decide between the two, which was entitled to the second premium, but they finally determined as above stated. In fact all of this class were very fine animals.

In the class of yearlings, six were entered for premium.

To John Gardner of Haverhill, the first premium of $4.

To J. T. McDonald, of Haverhill, the second premium of $3.

In this class also were some very fine Colts.

The Committee are of the opinion that those of the two last named classes are superior animals, and that a decided improvement is being made in this branch of agriculture.

Committee — James P. King, Albert Kimball, Hazen Ayer, William J. Dale, Jr., Paul D. Patch.

SWINE.

The Committee on Swine, report that the exhibition was unusually small; there were but four competitors.

The Committee would recommend the first premium of $8, to C. E. Morse, of Bradford, for his Cumberland Boar.

The first premium of $8, to Daniel Carleton, of North Andover, for his breeding Sow.

The first premium of $5, to Michael McDonald, of Haverhill, for his eight Pigs.

Farmers necessarily have to change their business, according to the wants of the people, and raise such articles as are

best adapted to the wants of the market; or, in other words, produce such articles from which they can make the most money.

Formerly, almost every farmer raised more or less pork for the market. Potatoes were raised in large quantities, which were cooked and mixed with meal and the refuse from the dairy, making good keeping for swine; also apples were used in the fall of the year to some extent, which were of some value. Now, circumstances have entirely changed; potatoes can no longer be profitably raised for swine, except the refuse ones. The crop of corn, has been changed by many farmers for vegetables, to supply the market. Milk, is also sold in the market, instead of being made into butter and cheese, as formerly; so that the keeping of swine from the products of the farm with many farmers, is almost entirely cut off. Pork is also brought in large quantities from the West, to supply the market.

Now, under all these circumstances, what shall the farmer do? Is it profitable to buy grain and make pork? This depends upon the proportional price of each article. In the opinion of the writer, with a good breed of swine and proper care, pork can be raised for ten cents per pound, when corn can be purchased for one dollar per bushel, offsetting the manure for the trouble of taking care of them.

Hogs will make a large amount of manure, if they have a suitable place to be kept, and material on which to work. They like a dry place to eat and sleep; although they like to wallow in the mire, they do not like to eat and sleep there. They should also be fed regularly; I mean about the same time every day, as they will be more quiet, and the more quiet they are, the better they will thrive.

Now if pork is not profitable at all times to raise for the market, most farmers like to raise pork and lard and hams, for family use; and if the profits on pork is small, it is none the less important that the best breeds should be selected.

Chairman of Committee—Joseph How.

SHEEP—COARSE WOOLED.

The Committee on Coarse Wooled Sheep, report the award of the

1st premium, to J. P. Foster, of North Andover, for his flock of Ewes, $8.

1st premium, to D. R. Webster, of Haverhill, for his Buck, $6.

Committee—Charles Corliss, A. P. Bateman, Henry Patch, Benjamin Needham.

POULTRY.

The Committee on Poultry have attended to their duty, and make the following report:—

We have awarded to E. S. Tappan, of Haverhill, for the largest and best show of Fowls, $3.

To Wm. Rankin, Jr., of Danvers, for second best, Strong's Book on Grapes.

To E. F. Webster, of Haverhill, for coop of Turkeys, $1.

To Willie B. Ladd, of Groveland, for one coop of Plymouth Rock Fowls, $1.

To Robert G. Buxton, of South Danvers, for one coop of Bremen Geese, $1.

To Otis F. Putnam, of Danvers, one coop of Wild Geese, $1.

To E. W. Hayward, of Danvers, for one coop of Black Poland Fowls, $1.

To J. E. Osborn, of South Danvers, for one coop of Leghorn Fowls, $1.

To John Bogardus, of Newburyport, for best coop of Brahma Fowls, $1.

To John Perley, of Bradford, for one coop of cross of Brahma and Native Fowls, $1.

To Frederick A. Brown, of Haverhill, for one coop of Bremen Geese, $1.

To Nelson Bodwell, of Boxford, for one coop of Brahma Fowls, 50 cents.

To David Webster, 2d, of Haverhill, for one coop of Brahma Fowls, 50 cents.

To A. D. Robinson, of Bradford, for one coop of Native Ducks, 50 cents.

To Robert G. Buxton, of South Danvers, for one coop of Muscovy Ducks, 50 cents.

To Horace Morse, of Haverhill, for one coop of Sea Bright Bantams, 50 cents.

To Eugene H. Tilton, of Haverhill, for one coop of Black Bantams, 50 cents.

Committee—John I. Ladd, S. Southwick, Andrew Nichols, David Kimball.

PLOUGHING—DOUBLE TEAMS.

The Committee on Ploughing with Double Teams, respectfully report that there were four entries of teams, all of which competed for the premiums, and we award as follows :—

To J. L. Farnham, of North Andover, the first premium of $12 ; he used the " Hussey " Plough, No. 16.

To R. T. Jaques and R. S. Bray, of Newbury, the second premium of $10 ; the " Eagle " Plough, No. 20, was used.

To Cummings & Phelps, of Andover, the third premium of $9 ; these parties used the " Doe C." Plough, No. 7.

To C. K. Ordway, of West Newbury, the fourth premium of $8 ; he used the " Doe C." Plough, No. 7.

Committee—S. A. Merrill, Henry Hobbs, Henry A. Gould, Everett J. Gage, Robert A. Smith, Wm. B. Morgan.

PLOUGHING—SINGLE TEAMS.

The Committee report four entries, but two of whom appeared on the ground. They award the first premium to Richard T. Jaques, of Newbury, using the "Hussey" Plough, No. 16.

The second premium they award to Romulus Jaques, of West Newbury, he using the "Conical" Plough, No. 4.

Both competitors performed their work in a creditable manner, and deserve the commendation and praise of the Society, for their skill and pains.

Committee—William Little.

PLOUGHING—WITH HORSES.

Eight teams were entered, but only six teams appeared, five Horse, and one Mule team. The ground selected for Ploughing proved unfit, it being stony and uneven, and the lots drawn not equal, making it difficult for the Committee to judge of the Ploughing. The premiums were awarded for Horse teams, and the Committee award the first premium to William R. Putnam of Danvers, Holbrook's Universal Plough, No. 98. Second premium to Thos. C. Shattuck, of N. Andover, "Hussey" Plough, No. 16. Third premium to James H. Duncan, of Haverhill, "Concord Eagle" Plough.

The Mule team, entered by Nathaniel Stevens & Son, of North Andover, considering their light weight and cool condition after ploughing, eclipsed all others, doing their work as well as any, and in less time. The Committee were unanimously in favor of giving this team the first premium, but were debarred, from the fact that the premiums were offered for Horse teams. Moody S. Dole, of West Newbury, drawing a poor lot, abandoned the contest, after showing very good work with what he had to contend with.

Chairman of Committee—W. A. Russell.

PLOUGHING—SIDE HILL PLOUGH.

The Committee on Ploughing with Side Hill Plough, have attended to the duty assigned them and report :—

There were but two entries made. The Committee were unanimous in the opinion that the work performed by the Plough No. 6, was superior to any work of the kind ever witnessed by them, and they think that this plough is superior to any plough of the kind that they have ever seen, for ease of draft and quality of work. The Committee, through the kindness of the ploughman, Mr. Pettingill, tested the performance of the plough at different depths from six to nine inches, with satisfaction to themselves and comfort to the team.

They are unanimous in the award of the first premium of $10, to Messrs. Pettingill & Allen, of Topsfield. Plough—F. F. Holbrook's wood-beam, No. 6,

The second premium of $8 to John T. Wood, of Boxford. Team, four oxen ; Plough—J. Nourse's, No. 9.

Committee — Horace Ware, Charles H. Nichols, John N. Kent, S. B. Swan, John Perley.

PLOUGHING—BY BOYS.

The Committee on Ploughing by Boys under Nineteen years of age, submit the following report :

In the earlier years of this Society, its premiums were intended to stimulate and encourage among the *farmers* of the county an improved style of agriculture. Very soon the farmers' *daughters* were invited by premiums and gratuities to exhibit specimens of their taste and skill in domestic manufactures, and the arrangement of flowers, etc. And later, we have included in the objects of our premiums, the finer, as well as the useful arts ; until only the largest halls in the

county can furnish sufficient room to exhibit the various products of industry and art to the thousands attracted by their beauty.

But while every other class have been stimulated to aid in making our annual shows an occasion of general interest, the *boys* have been strangely, but unintentionally neglected. It is, therefore, not surprising that few premiums have ever been offered by this Society for any object, which have excited such a general interest as have the generous premiums offered by our President for boys' ploughing. And the boys naturally feel that they are no longer to be merely *spectators*, but actors and competitors with men.

The ploughing match has always been an exciting scene at our annual shows. Not only farmers, but men of all occupations, and ladies also, eagerly watch with glowing interest each stalwart competitor, as with vigilant eye he guides his well-trained team, and skillfully with experienced arm promptly counteracts any slight unevenness of the team which would mar his work.

But, as was naturally expected on this occasion, the public eye was turned with a deeper interest to see these *boys*, without the strength and experience of the stalwart ploughmen around them, undaunted by the public gaze, — guide their teams and lay their maiden furrows.

Seven boys competed for the prizes:

Charles Fish, of Danvers, age 15 years; team owned by Francis P. Putnam — used Holbrook's Universal Plough, No. 94.

Eben Dodge, of Danvers, age 17 years; team owned by Francis Dodge—used Holbrook's Universal, No. 94.

S. F. Barker, of North Andover, age 16 years; team owned by William Foster—used Ruggles & Morse's, letter B.

Eustis Balch, of Groveland, age 18 years; team owned by Thomas Balch—used Holbrook's Universal, No. 95.

George Stiles, of Marblehead, age 17 years; team owned by ————, used Lion Plough, No. 61.

Frank C. Phelps, of Andover, age 17 years; team owned by Harmon Phelps — used Whittemore, Belcher & Co.'s, No. 20.

Walter Cummings, of North Andover, age 16 years; team owned by Newell Atkins—used Morse's, No. 2 1-2.

Though the field was well adapted to the purpose, yet some of the lots tested the skill of the boys. On all the lots, with one exception, (Barker's) the work was well done. In the judgment of the Committee the ploughing of the three successful competitors would have been creditable to experienced workmen. Had the cutters of two or three of the ploughs been bent some two inches, so that the plough front would have exactly followed it, the work would have been smoother. The lower lot ploughed by Fish, was a few furrows wider than the others. This will explain why he finished later than they.

The Committee unanimously award to Charles Fish, of Danvers, the 1st premium of $25.

To George Stiles, of Marblehead, the 2d premium of $15.

To Eben Dodge, of Danvers, the 3d premium of $10.

In addition to these large premiums given by the President of the Society, he also generously authorized the Committee to award to each of the other boys a gratuity of $5, if it was thought that they merited it. The Committee, therefore, unanimously award to Eustis Balch, of Groveland, Frank C. Phelps, of Andover, and Walter Cummings, of North Andover, this gratuity of $5 each.

The Committee regret to add, that both the ploughing and also the management of the team by Barker were so defective, that they could not justly recommend that the gratuity be given to him.

Chairman of Committee—John Keely.

AGRICULTURAL IMPLEMENTS.

No subject should receive more attention from those interested in progressive agriculture, than farm implements. It lies at the very foundation of all improvement. We may have new fertilizers, new modes of applying them, and increased products, but the cost of tilling and harvesting must be kept down by the use of labor saving machines, or there will be little or no profit. So with the hay crop for example, every implement that facilitates cutting, curing and gathering, tends to make the crop more remunerative.

The greatest outlay on a farm now-a-days is for wages. To a great extent these must correspond to wages in other occupations, or our farms will be deserted. And yet every farmer —we do not include market gardeners — well knows that he cannot pay extravagant or even comparatively high wages, and make both ends of the year meet. Hence he is greatly interested in the substitution of horse power and steam power for man power, and where this can be effected on the farm, it is no detriment to the latter, as there are always other avenues in this country for its profitable employment.

In the West, where farming is carried on on so grand a scale, horse and steam power and improved implements and machinery are used to an extent to which we in New England are unaccustomed. With them it is a necessity, or their work could not be accomplished. Our farms and crops are so small we do not so generally feel this necessity. We can "rub and go" with the same tools that our fathers used, but then we make no headway either in filling our barns or pockets. Thus it is that so many complain of farming as a poor business, and they always will complain till they set their brains at work to devise the means to help their hands.

But we are not obliged to invent new implements ourselves; we have only to select from those already invented, or which are constantly invented to meet the wants of the farm. True, it costs considerable money to get these implements, but the first cost is not the question. The question is whether it will

be a good investment. Again, you fear to buy lest a better implement will shortly be introduced, and you will wait for that. But, by the same rule, when that comes, you will wait for its successor, and so on, till you miss your opportunity. So fares it with some farmers, and you can easily tell whether they are among the most thrifty. Others run to the opposite extreme, buy every new implement that comes along, and have a good deal of useless machinery to fill their sheds. Of course there is discretion to be exercised here, as in other things, and by it you must direct your path.

Of implements of acknowledged utility, we say in the words affixed to the advertisements of Webster's Dictionary: "Get the best." Depend upon it, the best is in the long run the cheapest. Only be sure to use and house your tools carefully. As a general thing, you will be more likely to do this, if you buy the best, than if you buy the cheapest. Yet we would not be understood as claiming that high cost is an infallible guarantee of the best quality. There may be fixtures about tools, as well as tools themselves, that are more ornamental than useful. A farmer needs to have his eyes open when he is shown a churn, for example, that has a variety of arrangements by which it is asserted that butter can be churned by a small child, and that too in five or ten minutes. He may be wheedled into a purchase, but after a few trials he will be no more proud of it than Franklin was of his whistle.

A farmer, of all men, needs to have a wise caution in purchasing things that promise large results. He must look into them for himself, or must rely upon the judgment or experience of others who have tested them. If he takes only the word of the vendor, or the certificates of persons unknown to him, he will be liable to be swindled, as some in our county have been this very season.

With reference to new implements, it may truly be said that one trial will not fully test them. "One swallow does not make a summer," is a good adage for farmers. Many new agricultural tools, like new brooms, work well at first, but be-

fore long one defect and another come out where you little suspect it, and unless it be remedied, they must be abandoned. Pope's very conservative rule with regard to fashion, might perhaps be recommended in the use of farm implements :—

> "Be not the first by whom the new is tried,
> Nor yet the last to lay the old aside;"

only we should be glad to know, if every body adopted this rule, how any improvement is to be introduced? There must be a first one to try every new thing, and generally it is the most enterprizing and thrifty—sometimes, too, the most notional—who is ready and willing to do it. And the whole farming community are under obligations to such men; men who at great expense of time and money, and sometimes at the risk of prejudice and ridicule, go forward with a new horse-mower, or a horse-rake or hay-tedder, and by their example revolutionize their neighborhoods. All honor to such men! They are benefactors of their race! Let the Essex Agricultural Society ever encourage such men by prompt and appreciative attention, and by a liberal award of premiums.

At an exhibition of agricultural implements, the committee labor under a difficulty in making their awards. It is seldom they can assign reasons for their preference of one implement over another of the same class, founded on a trial of them on the spot. They must rely, therefore, on a careful inspection of the implements and such reliable testimony as they can gather from those who have used them. And this, with a single exception, is all we have been able to do on the present occasion, and accordingly we submit the following premiums and gratuities :—

PREMIUMS.

For the best Mowing Machine, to Whittemore, Belcher & Co., of Boston, for Wood's New Jointed Bar Mower, $10.

For the best Farm Wagon, to Samuel A. Merrill, of Danvers, the same being a two-horse Market Wagon, $10.

For the best Horse Pitch-fork, (tested on the cattle ground,) Raymond's patent, to John S. Preston, of Danvers, $10.

For the best Horse Rake, Bay State Pattern, to Charles Perley, of Boxford, $5.

For the best Horse Hoe, (not tested at the Fair as required by the rules,) Share's pattern, one-half the premium offered, to Amos Poor, of West Newbury, $5.

GRATUITIES.

To S. A. Merrill, agent of Ames's Plough Co., for a Horse-hay tedder, Garfield's pattern, $10.

To E. E. Lummus, of Boston, for a Kniffen one-horse Mower, $5.

To Nathan Page, Jr., of Danvers, for a Portable Pump and Graduated Sprinkler, $5.

To George E. Herrick, of Lynnfield, for his improved Seed Sower, $3.

For the best Collection of Implements, the special premium offered by the President of the Society, is awarded to Whittemore, Belcher & Co., of Boston, their collection comprising 75 articles, $25.

Committee — Allen W. Dodge, William Hazeltine, Henry A. Bodwell, Asahel H. Patch.

CARRIAGES.

The Committee on Carriages, award the premiums as follows :—

To Alvah Whittier, of Haverhill, for Buggy, $3; for Carriages, $4 ; for Sleighs, $3.

Committee—George French, Calvin How, J. F. Merrill.

DAIRY.

The Committee on Dairy Products, would report as follows:

There were twelve entries of Butter, and three of Cheese; one factory Cheese for exhibition only. Some of the contributors failed to comply with the rules of the Society in regard to quantity exhibited, and some failed to present a statement, so that the number of contributors eligible to a premium was somewhat diminished.

The committee award the first premium of $12, to Hannah Lambert, of Rowley; the second premium of $10, to Mrs. Farnham Styles, of Middleton; the third premium of $8, to Sarah L. Ridgeway, of W. Newbury; the fourth premium of Burr's Field and Garden Vegetables, to Mrs. Nathaniel Carleton, of Bradford.

Your committee considered the cheese made at the Byfield factory the best exhibited, and thought the others of not sufficient excellence to justify the award of a premium.

The chairman of your committee submits the following:

It is a fact well known that the production of Butter and Cheese is not a leading agricultural interest of this county.—Our numerous cities and villages require a large proportion of the dairy product, in the form of milk, and this proportion is constantly increasing. And yet it does not necessarily follow that less effort should be made to produce the best qualities of butter and cheese. Most of the farmers, and many who are not farmers, produce their own butter, and as no poor article of food—always excepting poor bread—so injures an otherwise good meal as does poor butter, and as our enjoyment in life depends largely on the quality of the food we eat, it perhaps follows that excellence in the manufacture of butter will contribute quite as much to our comfort and happiness, as if it were the leading agricultural product.

We were struck with the similarity of the statements of the contributors of butter—both of those who received a premium and those who did not. The manner of making seems to be

in most cases essentially the same. And yet there was a wide difference in the quality of the different samples—a difference which could not be accounted for by any difference in the methods of making. We suppose the highest excellence in the production of butter requires three things: 1st—cows that give the best quality of milk; 2d—feed of the best kind; 3d—the best method of making the butter. The first named requisite is no doubt the most essential. We want for butter purposes a good stock of cows, whose chief excellence consists in giving milk rich in butyraceous particles. This is the first step towards improvement, and here arises a practical difficulty. How shall we get such a stock? If we could have cows which would *average* as good as the best we now have, either for the production of milk or butter, the dairy would be the most profitable branch of farming. Is this result attainable? If so, how? We believe it is, but not by going to Brighton, or the country, and buying the cheapest looking animal to be seen; neither is it generally a profitable operation to pay extra prices, because cows are highly recommended. Most farmers do not sell their best cows until they grow old, or something befalls them to impair their usefulness. No doubt the best cow is the cheapest, even if a high price is paid, but the difficulty is to be reasonably certain that the cow is as good as the price. We believe the best way and the only way in which we can make any real improvement in our stock, is to raise it ourselves. It is true, that many of our Essex County farmers think that stock-raising does not pay. Undoubtedly it does not pay to raise inferior, or even average stock here, and sell it as soon as it arrives at maturity. But experience and observation both, convince the writer, that it pays to raise good cows. By putting our best cows to a bull from good butter or milk stock, and raising the heifers, we shall be pretty certain to get a better stock than we can readily buy, and by a systematic and judicious management, vastly improve the quality of our cows. If it is said that cattle can be raised somewhere else cheaper than here, we admit it. But the cattle are

not raised with reference to milk or butter. Breeders generally are not careful to breed only from the best, and if we want the best, we must breed them ourselves. Even if it does not pay at once, we shall be making permanent improvement, which in the long run will be sure to tell. It will create an interest, and by raising the standard, will lead stock raisers to be more careful in the selection of their animals. This matter lies at the foundation of all improvement, either in the production of butter or milk. It costs but little more to keep a cow that makes three hundred pounds of butter per year, than one that makes but two hundred; or that averages ten quarts of milk per day, than one that gives but six. How to obtain such cows, is the practical problem to be solved. Much might be said, relative to the other points mentioned. We imagine that if our farmers had a better paying class of cattle, they would naturally feed better, and when we furnish our wives and daughters with the best material for the manufacture of butter and cheese, we do not believe *they* will be found lacking in their part of the business.

Committee — Joseph S. Howe, John A. Putnam, Hiram Tozier, Nathaniel Lambert.

STATEMENT OF HANNAH LAMBERT.

This parcel of Butter, consisting of 15 pounds, was obtained by the following process: first, the milk was strained in nicely scalded tin pans to the depth of two and one half or three inches, then set in a cool room, where the air was kept as free as possible from all impurities, to stand about 36 hours; after which the cream was removed to an earthen jar, and stirred twice every 24 hours, until the time of churning, which was 8 days after the first cream was collected. It was churned in "Davis's Patent Self-adjusting Churn." When the butter was well collected, the butter-milk was drawn from the churn,

and the butter removed by hand, care being taken to press all the butter-milk possible from it. The butter was then weighed and 1 1-4 ounce of salt added to each pound of butter. The whole lump was then put in a cool place to remain 24 hours; when each pound was taken separately and all the remaining butter-milk removed by hand. The lumps were then left for 12 hours to partially harden, when they were put into their present form, by the use of common butter-clappers.

STATEMENT OF MRS. NATHANIEL CARLETON.

I present for your inspection fifteen pounds of Butter made from the milk of six cows in two days and a half. The milk after being drawn is strained in tin pans, set in a cool, well ventilated room, and after standing thirty-six hours the cream is then taken off and kept in a cool place till churned; the butter is then taken from the churn and salted to the taste.— In from twelve to twenty-four hours it is again worked over with the hands till it is perfectly free from any moisture. Then with clappers it is made into the shape that is presented to you.

STATEMENT OF MRS. FARNHAM STILES.

I present for your inspection, a box of September Butter, containing 16 1-2 pounds. Process of making: The milk is strained into well scalded tin pans, and placed in a well ventilated dairy room, to remain from 24 to 36 hours; the cream is then removed into a stone jar and stirred twice a day. We churn once a week. The butter is taken from the churn into pure cold water, and the butter-milk thoroughly worked out with the hands and salted to the taste. After remaining about 24 hours, it is worked again, and made into lumps as presented.

BREAD AND HONEY.

The Committee on Bread and Honey report the following gratuities :

——— Gould, of Wenham, $5 ; ——— Batchelder of Newburyport, $4, for very interesting exhibitions of Honey and Hive of Bees at work.

Gratuities on Bread.—Joanna Harrigan of Haverhill, $2 ; Miss Loisa Ordway, and Mrs. George Lovejoy, of Bradford $1 each ; Ellen Moriarty, Mrs. H. S. Gould, and Mrs. John Goodrich, of Haverhill, 50 cents each ; Miss F. W. Hazeltine, of Bradford, 50 cents.

Gratulties on Preserves—Mrs. A. Littlefield, of Haverhill, $2 ; Mrs. G. B. George, $1 ; Mrs. S. G. Long, Mrs. Daniel Palmer, Mrs. R. H. Ayer, and Mrs. E. B. Johnson, of Haverhill, 50 cents each.

For the Committee—James R. Nichols.

PEARS.

The Committee on Pears make the following award as premiums and gratuities, viz :

To Wm. Maloon, of Salem, for 12 best specimens Bartletts, $1 ; W. D. Northend, do, 12 best specimens Duchesse d'Angouleme, $1 ; B. P. How, Haverhill, 12 do Belle Lucrative, $1 ; H. F. Rich, do, 12 do Flemish Beauty, $1 ; W. D. Northend, Salem, 12 do Beurre Bosc, $1 ; Wm. Maloon, do, 12 do Beurre Superfine, $1 ; David Boynton, Haverhill, 12 do Onondago, $1 ; W. Maloon, Salem, 12 do, Doyenne du Comice, $1 ; Henry Savary, Groveland, 12 do, Seckel, $1 ; Sumner Southwick, South Danvers, 12 do Buffum, $1 ; S. P. Bradley, Haverhill, 12 do Winter Nelis, $1 ; W. D. Northend, Sa-

lem, 12 do Black Pear of Worcester, $1 ; H. Webster, Haverhill, 12 do Vicar of Winkfield, $1 ; Wm. Maloon, Salem, 12 do Lawrence, $1 ; E. Gage, Bradford, 12 do Glout Morceau, $1 ; J. W. Haines, Haverhill, 12 do Louise Bonne de Jersey, $1 ; Aaron Woodman, do, 12 do Beurre Clairgeau, $1; Mrs. B. F. Horsford, do, 12 do Golden Beurre ; Warner R. Whittier, do, 12 do Catillac, $1 ; Warren Sheldon, Danvers, 12 do Urbaniste, $1 ; Wm. Maloon, Salem, 12 do Beurre Diel, $1 ; J. B. Swett, Haverhill, 12 do Sheldon, $1 ; S. W. Hopkinson, Bradford, 12 do Heathcot, $1 ; W. D. Northend, Salem, 12 do Beurre d'Anjou, $1 ; J. V. Stevens, South Danvers, 12 do Paradise d'Autumn, $1 ; Wm. Maloon, Salem, 12 do Marie Louise, $1 ; J. V. Stevens, South Danvers, 12 do Doyenne Boussock, $1 ; Mrs B. F. Hosford, Haverhill, 12 do Beurre Gris, $1 ; Sumner Southwick, South Danvers, 12 do Tongres, $1 ; Richard Webster, Haverhill, 12 do Baron de Mello, $1.

The following gratuities of 50 cents each, for the best 12 specimens, were awarded to

Moses How, Haverhill, Bartletts ; D. P. Harmon, do, do ; A. L. Peirson, South Danvers, Belle Lucrative ; S. P. Bradley, Haverhill, Duchesse d'Angouleme ; Peter Wait, Danvers, Flemish Beauty ; S. B. Bradley, Haverhill, Doyenne Bossouck ; D. D. Flanders, do, Onondago ; F. Brickett, do, Vicar of Winkfield ; J. V. Stevens, South Danvers, Beurre d'Anjou; M. H. Roberts, do, Beurre Bosc ; A. L. Peirson, do, Seckel ; Gilbert Kimball, Haverhill, Louise Bon d'Jersey ; Warner R. Whittier, do, Beurre Clairgeau ; Sumner Southwick, South Danvers, Easter Beurre ; S. H. Elliot, Haverhill, Paradise d' Autumn ; E. Gage, Bradford, Beurre Diel ; Mrs. B. F. Horford, Haverhill, Glout Morceau ; E. G. Pressey, do, Winter Nelis ; E. Gage, Bradford, Lawrence ; A. B. Fellows, Ipswich, St. Michael.

For the best collection of Twenty Varieties, to Wm. Maloon, Salem, $5.

For the best collection of Ten Varieties, to W. D. Northend, Salem, $3.

Eor the best collection of Five Varieties, to J. V. Stevens, South Danvers, Burr's Garden Vegetables.

Committee—W. R. Whittier, John V. Stevens, Wm. D. Lamb, Hiram Rodgers.

APPLES.

The Committee on Apples award the following premiums:

For the best Twenty Varieties, to Charles H. Lake, Topsfield, $5.

For the best Ten Varieties, to Benj. P. Ware, Marblehead, $3.

For the best Five Varieties, to Albert Kimball, Haverhill, Burr's Garden Vegetables.

For the best 12 specimens of the following varieties the committee award a premium of $1 each:

Porter, to William Caldwell, Haverhill; Golden Russett, Charles H. Lake, Topsfield; Pickman Pippen, Benj. P. Ware, Marblehead; Baldwin, Chas. H. Lake, Topsfield; Jonathan, James Flint, Middleton; Hunt's Russet, Peter Wait, Danvers; Danvers Sweet, Charles H. Lake, Topsfield; Seaver Sweet, B. P. Ware, Marblehead; Haskell Sweet, do, do; Graven stein, H. S. Brown, Haverhill; Minister, James Flint, Middleton; Sweet Baldwin, Drap d'Or, Lyscom, Benj. P. Ware, Marblehead; Roxbury Russett, Russet Sweet, Williams Red, J. A. Lunt, Newbury; Rhode Island Greening, George N. Ordway, W. Newbury; Eustice, Josiah Newhall, Lynnfield; Ladies' Sweet, Fall Harvey, James Flint, Middleton; Detroit, S. H. Sheldon, Haverhill; Sweeting, S. A. Merrill, Danvers;

Hubbardston, J. R. Nichols, Haverhill; Fall Pippin, William Perkins, Newbury.

The following gratuities of 50 cents each were awarded:

Hunt's Russet, to Amos Brown, Danvers; Rhode Island Greening, Peter Wait, Danvers; English Sweeting, H. R. Snow, Haverhill; Minister, James Wilson, Topsfield; Hubbardston, J. A. Lunt, Newbury; Pumpkin Sweet, Josiah Newhall, Lynnfield; Gravenstein, Roxbury Russet, Charles H. Lake, Topsfield; Fall Harvey, Nathaniel Annable, South Danvers; Orange Quince, A. R. Lancaster, Haverhill; Pound Sweet, Richard Webster, Haverhill. For Varieties, to Asa Adams, Newbury; B. Bricket, Haverhill; T. K. Leach, Topsfield; D. Plumer, Newbury; James Wilson, Topsfield; E. G. Hyde, Danvers; Richard Webster, Haverhill.

Committee — J. B. Sargent, G. W. Gage, John Perkins.

PEACHES, ASSORTED FRUITS AND GRAPES.

The Committee on Peaches, Assorted Fruits and Grapes, have awarded the following premiums and gratuities:

For the best Free Stone, White Flesh Peach, to John P. Foster, of North Andover $1.

For the best Yellow Flesh Peach, to P. F. Butters, of Haverhill, $1.

For the best Seedling Peach, to Charles F. Ives, of Salem, $1.

For the best Collection of Peaches, to G. W. Chadwick, of West Boxford; $2.

For the best Basket of Assorted Fruits, first premium to C. H. Lake, of Topsfield, $3.

For second best Basket, to Nelson Bodwell, $2.

For third best Basket, to Peter Wait, of Danvers, $1.

For the best Concord Grapes, to George C. Bailey, of Haverhill, $2.

For the best Hartford Prolific, to E. Harrington, of Groveland, $2.

For the best Isabella, to John F. Abbott, of Danvers, $2.

For the best Delaware, to Moses Howe, of Haverhill, $2.

For the best Iona, to Charles Barker, of Haverhill, $2.

For the best Israella, to Moses Howe, of Haverhill, $2.

For the best Adirondack, to Moses Howe, of Haverhill, $2.

For the best Rogers's Hybrid, Nos. 4 and 19, to George W. Gage, of Methuen, $4.

For the best Rogers's Hybrid, No. 15, to Adrian Chase, of Haverhill, $2.

For the best ten varieties of Grapes, to G. W. Gage, of Methuen, $5.

For the best five varieties, to Charles Barker, of Haverhill, $3.

For the best assortment of Cold House Grapes, to E. Mitchell, of Haverhill, $3.

For the second best assortment, to E. Gage, of Bradford, Strong's book on Grapes.

Gratuity for collection of Grapes, to Robert Bailey, of Newburyport, $1.

Gratuity for collection of Grapes, to James R. Nichols, of Haverhill, $1.

Gratuity for collection of Grapes, to D. P. Harmon, of Haverhill, $1.

Gratuities for fine plates of Peaches, to Luther Bartlett, Oliver Taylor, S. W. Hopkinson, C. Webster, C. B. Emerson, and S. F. Proctor, of Bradford; C. Hersey, of Haverhill;— each, 50 cts.

Your Committee would respectfully suggest the expediency of hereafter placing all of a given kind of fruits in one locality, in the exhibition hall. Our duties were quite onerous not only in attending to three departments, all generously supplied with

entries, but each plate seemed to have assigned it a place designed to elude official eyes, a modesty unusual with contributors, if a fault of theirs.

The most lamentable feature, however, in this unwarrantable distribution of fruits over the tables, was the great length of time thereby required to complete our amplified labors, amounting to "prohibition" on all outside gustatory enjoyments! And we would take this occasion to express our most sincere regrets to the many hospitable citizens of Haverhill and Bradford, that we were consequently unable to comply with their polite invitations.

Your Committee were limited to the sum of five dollars, cur rency, to be awarded in premiums on Peaches raised in Essex County for the year of our Lord 1867. Our arithmetic and most profound judgment were brought into requisition to divide this appropriation, not equally but according to merit!

We at once virtually resolved ourselves into a tasting committee of the whole. Perceiving that a son of our venerable member from Salem had a seedling for consideration, we disposed of this delicate matter during a temporary absence of our worthy colleague, and necessarily interested party. We can therefore fully exonerate this pioneer in fruit culture from all undue or personal influence in our ultimate decision! Stern justice and justice only, guided us on the ground of quality, beauty, and years of pains-taking. May this one dollar encourage Charles to renewed efforts for the public good as well as his private emolument.

We owe an apology to Messrs. Foster aud Butters for subjecting them to the trouble and expense of collecting one dollar each, or otherwise disposing of said sums already deposited to their credit in Mechanics' Bank, Salem. But the by-laws of the Society and absolute duty were imperative! We further regret that by the same rules we could not award a "less sum than 50 cents" in gratuities to the unfortunate recipients named! Lucre was needless to compensate or to encourage the cultivators of such fine specimens in addition to the self-

consciousness of their excellence, and of duty performed to the society and the public in presenting them.

"The best Collection" of Peaches, your anxious Committee construed to mean in part the highest number; and for this they were curious to know the specie value of the premium they were permitted to give! They therefore feel that in awarding Mr. Chadwick only 143 cents cash for his large and good assortment, the Society, on the mere doctrine of equivalents, are under further pecuniary obligations to him. The transportation from Boxford, time spent, injury to fruit and its presumptive diminution through the indulgence of the Committee, are items that must foot up a serious loss to the exhibitor, as the matter now stands! It may, however, be many years ere another such peach season shall return to tax the patience of growers, or afford similar gratification to a committee!

Assorted fruits as generally presented in baskets, are curiosities indescribable! As ornaments they add much to an exhibition, and deserve awards for the ingenuity displayed in arranging such a medley of fruits, independent of their qualities. Of the latter we did not presume to know. Our motto in this department was from Paul to the old Colossians, "touch not, taste not, handle not!" The base of operations in these pyramids,—which may have been aught else but fruits — and the superstructure so tastefully arranged, doubtless, by fair hands, were all equally sacred from investigation!

Without making a precedent for our successors, we are bound to say that the points of merit on which we disposed of another five dollars, legal tender, were beauty, size, design, and variety of components; making in the aggregate the best ornamental display. Competitors will therefore perceive that they might as well have constructed these artistic models entirely of artificial fruits, which are now made to excel the natural in polish and splendor, and negatively in fragrance!

On the matter of out-door grapes, your Committee awarded premiums according to requirements, for the best of each and all varieties; but it was a singular anomaly that the best

could be found where there was neither the good nor the better! The Chairman had the tact and good fortune, in the outset, to have the duty assigned to him of recording the important decisions arrived at by his fellow members, and was only required to give a vote in case of a tie. Hence he became irresponsible for the awards on the shades of difference in Rogers' thirty numbers, or the distinction without a difference between six and half a dozen, as in his own opinion pertained to many other kinds! And, furthermore, he escaped personally all abdominal and gastronomical pains and penalties, gyrations and contortions, which must have afflicted his colleagues! If the "fathers who eat sour grapes set their children's teeth on edge," great and fearful must be the responsibility of our fellows, to the third and fourth generation!

When a raging fever is consuming life, its subject perchance a maniac, surrounded with sympathizing friends, with death waiting at the door, one is moved only to pity, as all in the course of events. But when the insane raves, and in his hallucinations acts the grotesque, and utters the most ludicrous absurdities, even friends are convulsed with laughter amid the scene. So while the epidemic known as the grape fever is sweeping the land with its inflated impostures and train of evils, it is impossible for a quiet looker-on to treat the matter seriously; while the propagators, venders, and bookmakers, being those who win, laugh and grow fat!

We would not imply that the victimized in this case are deceived more than those of any other hobby with which New England especially is periodically afflicted. This is, doubtless, the year of the grape collapse, and it only requires a Burnham to produce relapse and convalescence by exposure and ridicule. A Rogers' hybrid will then excite as much disgust as a State Constable or a Shanghae! This latter nondescript, an apparent cross of the turkey and the old-fashioned hen, is no more like, or to be compared to either, than some of our hybrids are to a Hamburg, or the old frost grape which every country boy feasted on in his youth.

We are especially in favor of progress, but not fitful or retrograde. Not every change is an improvement, and if disastrous the goal of perfection is farther off. The fact that some species of the vine are supposed to be indigenous to these Northern regions, is not evidence conclusive for paying success in cultivation. All seeds from even torrid climes have only to be deposited elsewhere by any agents, and under proper conditions with heat and moisture, they will germinate; and if a portion are sufficiently hardy to withstand our winters in some protected locations, they yet may not mature fruit, owing to too short and cold seasons. Hence many things native, are not natural, or in other words, congenial; and are, therefore, accidental and out of place. Adaptation is essential to success.

Our seedlings and crosses may be sweeter and more profitable raised farther South; and while we hope for others more promising, it is doubtful if farmers can depend on such as are now before them, for profit, compared with the average income on other products better suited to our soil and climate. It seems to us that the apple must still be our first fruit for domestic use and export; and we predict a value to its refined juice as a beverage, hitherto unknown.

Opinions, however, are of no account opposed to facts and figures. Isolated cases of remunerative vineyards for given years are occasionally published, but not many of these are east of the Hudson valley; nor do we see reports at all from the ninety-nine persons who have more or less vines. So general is the infatuation that probably one-half of our population who own land have from one to half a dozen vines, for which they paid as many dollars—and these are their reports, though not in print: A's rot, B's mildew, C's drop, and so on to the end of the alphabet. Indeed, this Northern grape tax, including the preparation of the soil, which is often unnecessarily expensive, must be thousands upon thousands of dollars over any income from the same source.

It was reported to the Committee that some of the best

specimens of grapes at the exhibition were ripened by the aid of glass; but the Committee did not feel free to act only on the condition of the fruit as presented. If contributors had been to that extra expense they verily needed gratuities. It may yet be a question, after finer varieties are obtained, whether such, added to the Delaware, Diana and Rebecca, may not be profitably raised under cheap glass structures, as they would require some less care than foreign varieties.

As a general rule, all things should be cultivated where they thrive and produce best year by year, and exchanged for products raised elsewhere. Rail transportation, ice packing, canning, and fruit preserving houses, must bring tropical and other fruits to our doors, at all seasons, cheaper by far than he can raise inferior and uncertain kinds. Choice foreign grapes and a few other luxuries may be forced and fostered, and remunerate for the time and means spent. But who would now think of raising the sweet potato, tobacco, or the negro, under glass, or by out-door culture in the Northern States, even at their former high prices? The fever for the latter is subsiding to a healthy condition, and although some propagaters still force the eyes of the former, few have the folly to purchase the slips. We must ever look to old Virginia and the Carolinas, not only for the best sweet potatoes but for Norton's and other Virginia grapes, and the very good wines made therefrom.

Unquestionably some varieties of native grapes, such as the Isabella, may produce and ripen well in some situations, as on the walls of houses, and be useful in families. But our foxy and pulpy grapes, in years when they ripen best, cannnot compare or compete in the market with the more delicious, as the Catawba, raised farther south.

Of the grapes which ripen by open culture, few can be endured as table grapes besides the Delaware, which this year has not matured, and when it does is often taken by the birds. Tolerable wine may be made from this grape without sugar. Connoisseurs, however, are not pleased with any wines yet

made in this country, including those of California; and they sneer at any so-called wines which have required the addition of sugar for proper fermentation, as is well known to be the case with the juice of the Northern grapes generally. If, then, sugar must be added to produce the alcohol, is not the juice of the currant or strawberry to be prefered, inasmuch as the fruit can be depended on annually? Vinous fermentation not being confined to the juice of the grape, it would seem that wine must be the result in all cases of this fermentation, differing in quality and flavor by specific causes.

Alcohol being the legitimate product of vinous fermentation and in its pure state essentially innoxious to health, it is all-important that vile additions should be absolutely prohibited. All vinous beverages, in other words all alcoholic liquors, especially when for sale, should be rigidly inspected or analyzed by government and certified to as unadulterated, and if not so stamped, destroyed at once with heavy penalties. This would be striking, successfully and justly, at the root of the evil. Then let all who will, make, sell or use pure articles as they do meats and other necessaries and luxuries of life.*

If this gratuitous advice is deemed obstrusive, it is simply to prepare the way for the more than innuendoes understood to be in the Annual Address, boding the speedy millenium of plentiful and free use of grapes and wines in this country as in France and Germany. Satiated with prohibition and special license, both equally obnoxious to principles of freedom, the next somerset and febrile attack, led on by some of the clergy of course, will no doubt be for the unrestricted sale and use of all pure vinous drinks. This is in fact the true doctrine, allied to temperance. This will encourage the grape enterprise,

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*To expressed views on this subject, it has been replied that a law to enforce inspection would not, and could not, be effectual. Let such enquire into the excise laws of England and France and their execution, and they will find that expert detectives of bad liquors are seldom deceived, and if unfaithful from any cause, a long term of imprisonment follows. On the contrary, if no exception to their fidelity and success occurs for a certain number of years, a pension is the reward,

the domestic manufacture of wines, and check the excessive importation of good and bad liquors generally.

It is the opinion of some that if our people would use and be satisfied for a time with a common wine, like the Claret and cheap wines of Europe, they could be supplied from the varieties of grapes now raised, such as the Concord and Clinton. Nothing but inexorable climate will baffle the indomitable Yankee energy in the future success with grapes and wines, and it would indeed be a happy era of prosperity and good feeling.

It is one of the most gratifying and marvellous sights abroad, to behold the level fields of France, the rising hills of Switzerland, and the terraced cliffs of the Rhine, thickly studded with stakes, entwined with vines, loaded with luscious fruits. Their comparatively free and happy people, male and female, toil and revel, feast and make merry, in spite of the lords of the soil, whose questionable rights they in time will be ready to dispute. Without the juice of the grape Paris would be a pandemonium. Unused to restraint, the people abuse not their freedom — their wines seem to soothe rather than excite — to quench instead of increasing the appetite — and they are strangers alike to indigestion and nightmares — horror and hobgoblins!

Unfortunately, all attempts to succeed with the many fine foreign grapes in any part of this country, by open culture, have failed. Under glass they are brought to the highest perfection as eating grapes. The old theories for preparing expensive borders and the equally unnecessary outlay on the buildings, have deterred most people from indulging in the supposed luxury for the more wealthy. But the time will come when farmers even, will have their cheaply constructed graperies and realize more on the cost and labor than on the same amount of each bestowed on field crops.

Care is required in raising grapes under glass; and while this is necessary for success in everything, few objects compensate better, pecuniarily and socially, than a well-managed

grape house. The beautiful idea in Dr. Seeley's address, that all of income is not in dollars and cents, is especially true of him who can sit under his own vines, eat of their fruit, give to his friends, and gratify his own family. Our community generally may not be aware of the remarkable success in this department, for years, of some of our citizens in various parts of the county. But in a report intended more especially for agriculturists, extended remarks would not be expected, detailing or in praise of what might be considered out of their routine.

For the Committee — E. G. Kelley.

FLOWERS.

The Committee on Flowers report the following awards and gratuities :

Mrs. R. G. Walker, Haverhill, best pair Parlor Bouquets, $2 ; Frederick Lamson, Salem, do Hand Bouquets, $2 ; Mrs. Haverhill, John Goodrich, best Floral Design, $3 ; Mrs. Laburton Johnson, Bradford, best dish Cut Flowers, $2 ; John C. Higgins, gardener to R. Bayley, Newburyport, best specimen Dahlias, $1 ; Mrs. Daniel Palmer, Haverhill, Rustic Basket of Phlox, best, $1 ; Mrs. Philip Quimby, Haverhill, best Verbenas, 16 varieties, $1 ; M. P. Atwood, Groveland, best bouquet Native (Wild) Flowers, $2 ; Miss Isabella S. Parker, Groveland, 2d best do do, $1 ; James Dewhurst, by James Barrett, Gardner, Bradford, largest pyramid Cultivated Flowers, largest pyramid Native (Wild) Flowers, and largest general display, $3 each ; John C. Higgins, gardener to Robert Bayley, Newburyport, 2d largest general display, $2 ; Mrs. James R. Nichols, Haverhill, Rustic Basket, $1 ; Mrs. R. H. Seeley, Haverhill, English Design, $1 ; Mrs. H. S.

Blodgett, Bradford, pair Bouquets, $1 ; to the same, for dish Cut Flowers, 50 cents ; Mrs. D. C. Knowles, Bradford, two Pyramids, Asters and Dahlias, $1 ; Mrs. S. W. Hopkinson, Bradford, 30 varieties Asters, $1 ; S. Sylvester, West Newbury, pyramid of Asters and dish of Pansies, $1 ; Mrs Sam'l M. Downs, Haverhill, Fringed Gentians and Wild Asters, $1 ; Miss Helen W. How, do, Pyramid Bouquet, 50 cents ; Mrs. H. S. George, do, Floral Design do do, 50 cents ; Mrs. Daniel S. Watson, do baskets Cut Flowers, 40 varieties, and Bouquet, $1 ; Miss Simington, Ayers' Village, Haverhill, pyramid Bouquet ; Mrs. Dudley Porter, Haverhill, basket Cut Flowers ; Mrs. P. E. Pearl, Bradford, do do ; Miss Anna R Dodge, Haverhill, Bouquet ; Mrs. Henry Taber, do do ; Miss Lillie Ames, do, 3 do ; Miss Mary L. Dodge, do, dish Cut Flowers ; Mrs. Alvah Merrill, do, Bouquets ; Miss Priscilla Parker, Groveland, Moss Design ; Mr. Otis Nichols, Lynn, pair Bouquets ; Miss Alice Fitts, Haverhill, dish Cut Flowers ; Miss Estelle Sanders, do, Verbenas ; Mrs. S. W. Hatch, do, pair Bouquets ; Mrs. J. M. Littlefield, do do . Mrs. Eliza Buttrick, do, Dahlias ; Mrs. R. A. Durgin, Bradford, do ; Mrs. Moody, Atkinson, N. H., Star Design ; Miss C. Lizzie George, Haverhill, dish Cut Flowers ; Mrs. C. W. Chase, do do ; Mrs. Alice Treab, do do ; Mr. N. Nichols, bouquet—50 cents each.

The display of Flowers has been very large and elegant—very much superior to last year—comprising some three hundred bouquets and floral designs, embracing all descriptions of cultivated, and eighty-eight varieties of wild, flowers. The committee regret that the amount of money to be awarded was not larger, as it was impossible to award premiums to all who were deserving of them, and would urge upon the society the propriety of placing a larger sum at the disposal of the committee in this department.

The committee would tender their earnest thanks to the ladies of Haverhill, Bradford and vicinity, for the very prompt and generous manner with which they responded to the call

which has made this part of the exhibition so large and attractive.

Committee—J. F. West, Dr. J. R. Nichols, Laburton Johnson, Charles Butters, Geo. A. Fuller.

VEGETABLES.

The Committee on Vegetables are unanimous in awarding the following premiums and gratuities :

To S. A, Merrill, of Danversport, for best display, the first premium of $12.

To Richard Webster, of Haverhill, for second best display, the second premium of $10.

To H. K. West, the third premium of $8.

To H. K. West, onions, $1 ; George N. Ordway, West Newbury, 50 cents ; Richard Webster, Haverhill, Turnips, $1 ; S. A. Merrill, Danversport, do., 50 cents ; F. G. Phillips, Squashes, $1 ; E. F. Webster, Haverhill, do., 50 cents ; C. E Morse, Haverhill, do., 50 cents ; Lucia Drew, Haverhill, do., 50 cents ; F. Brickett, Haverhill, Pumpkins, $1 ; D. Webster, 3d, Haverhill, do., 50 cents ; John Carlton, Haverhill, do., 50 cents ; R. Webster, Haverhill, Tomatoes, $1 ; J. Dewhirst, Haverhill, do., 50 cents ; Richard Webster, Haverhill, Corn, $1 ; S. A. Merrill, Danversport, do., 50 cents ; Alfred Kimball, Bradford, Potatoes, $1 ; E. F. Webster, Haverhill, do., 50 cents ; S. A. Merrill, Danversport, Cabbage, $1 ; D. A. West, Haverhill, do., 50 cents ; Richard Webster, Haverhill, Beets, $1 ; S. A. Merrill, Danversport, do., 50 cents ; S. A. Merrill, Danversport, Carrots, $1 ; R. Webster, Haverhill, do., 50 cents ; R. Webster, Haverhill, Parsnips, $1 ; H. K. West, Haverhill, do., 50 cents ; S. A. Merrill, Danversport, Beans,

50 cents; M. Tarlton & Son, Haverhill, Melons, $1; John Currier, Haverhill, do., 50 cents; S. A. Merrill, Danversport, do., $1; W. L. Carlton, Haverhill, Citron, 50 cents; R. Webster, Haverhill, do., 50 cents; John E. Mills, Haverhill, Peppers, 50 cents; A. H. Knight, Haverhill, do., 50 cents; A. F. Austin, Haverhill, do., 50 cents; Edwin Robinson, Haverhill, Onions and Squashes, $1; J. B. Sargent, West Newbury, Sweet Potatoes, 50 cents; John Higgins, Newburyport, Cauliflower, 50 cents; Robert Bailey, Newburyport, Celery, 50 cents; David Webster, 2d, Haverhill, Potatoes, 50 cents; H. Morse, Haverhill, Tomatoes, 50 cents; Julia A. Spofford, Georgetown, Corn and Beans, 50 cents; R. Webster, Haverhill, Peppers, copy of "Garden Vegetables"; S. A. Merrill, Danversport, Celery, "Garden Vegetables"; H. K. West, Haverhill, Mangle Wurtzels, "Garden Vegetables"; A. R. Winship, Haverhill, do., 50 cents; Josiah Newhall, Lynnfield, Gourd, 50 cents.

Committee — Sherman Nelson, John H. Perkins, Herman Phelps, William Sleeper.

COUNTERPANES, CARPETINGS AND RUGS.

The Committee on Counterpanes, Carpetings and Rugs, have to report an unusually large and fine display of Rugs and Counterpanes, and recommend the following premiums and gratuities:

COUNTERPANES.

To Mrs. Sarah Wellman, the first premium of $4.

To Mrs. J. K. Ordway, the second premium of $2.

RUGS.

To Mrs. C. K. Ordway, the first premium of $3.

To Mrs. Jacob Osgood, the second premium of $2.

To Mrs. Moses Haynes, a gratuity of $3.

As especially deserving of notice, we would recommend a gratuity of $1 each to Mrs. Allen Peabody, Mrs. E. A. Bennett, Mrs. G. F. Perkins, Mrs. Gardiner Keniston, Mrs. Crocker, Mrs. Cyrus Richards, Miss H. A. Gould, Mrs. J. S. Frye, Mrs. Betsey Reed, Mrs Susan C. Foster, Mrs. Sarah Pillsbury, Mrs. B. Batchelder, Mrs Thomas Ramsay, E. H. Woodbury.

Also, a gratuity of 50 cents each to Mrs. F. D. Wentworth, Mrs. Mary E. Merrill, Mrs. George Ayer, Mrs. E. J. Greenough, Mrs. John Frye, Mrs. John Davis, Miss Mary Gamble, Mrs. A. E. Batchelder, Mrs. Nancy H. Jacobs, Mrs. John Stewart, Miss C. G. Reed, Mrs. Lydia T. Dole, Mrs. L. W. Drew, R. P. Eaton.

There was but one entry of Carpetings, and we would recommend a gratuity of $1 to Brooks Bros., for their fine display of Carpets.

Committee — H. N. Stevens, F. W. Jacobs, F. D. Brooks.

ARTICLES MANUFACTURED FROM LEATHER.

The Committee on Leather and articles manufactured therefrom, report:

They award to Winn & Clarke, for best Harness, $10.

To Daniel Peters, for second best Harness, $5.

To John Brown, for three pairs of Boots, $5.

To Goodrich & Fitts, for Slippers, $4.

To S. P. Bradley, for one pair Congress Boots, $1.

To W. W. P. Oberton, for Lace Boots, new pattern, $5.

All of which is respectfully submitted.

Committee — A. D. Wait, J. F. Merrill, Amos Gould, C. Tompkins.

MANUFACTURES AND GENERAL MERCHANDIZE.

To the Committee on General Merchandize, were assigned all articles not under other specific heads, and as no premiums are within their gift, and only $20 for gratuities, they can only recommend small awards to the most meritorious contributions. These are as follows :

To S. R. Marston, for Sewing and Button Hole Machine, $2 ; Mrs. E. H. Safford, Knitting Machine and Work, $2 ; W. W. S. Oberton, Blind Support and Combined Hinge, $1 ; to the same, for Bit Stock, $1 ; O. P. Pettingall, Edge Tool, $1 ; N. B. Jewett, Astronomical Clock, $1 ; Hall & Co., Egg Beaters, $1 ; H. A. Smith & Co., Yeast Cakes, 50 cents ; N. N. Dummer, Clapboard Bolt, 50 cents ; Paul Lunt, Felt Slippers, 50 cents ; William Bacheller, Skirt Supporter, 50 cents ; Dr. Wm. W. Russell, Sets of Teeth, $1 ; Dr. W. Sellers, Teeth and Preparation, $1 ; Dan'l Hook, for display of Musical Instruments, Sewing Machines, etc., $1 ; Flanders and Co., do. Dry Goods, $1 ; Three Taylors, do. Robes, Mats and Clothing, $1 ; Brooks Bros., do. Carpets, 50 cents ; J. V. Smiley, do. Books, etc., $1 ; W. Smiley & Son, do. Lamps, etc., $1 ; Kimball & Gould, do. Silver Ware, etc., $1 ; H. L. Dole & Co., do. Silver Ware, etc., 50 cents ; James Noyes & Co., do. Paper Hangings, Paints, Oils, etc., 50 cents ; Hunt & Gould, do. Doors, Blinds, etc., 50 cents ; J. A. Appleton, do. Stoves & Hard Ware, especially for Seamless Pressed Tin

Ware, $1; W. A. Currier, do. Stoves and Ware, $1; C. Le Bosquet & Co., do. Stoves & Ware; $1.

Committee — R. Stuart Chase, Charles Ingalls, S. W. Hopkinson, Leverett Kimball, S. K. Mitchell.

FANCY WORK.

The Committee on Fancy Work have attended to their duty and submit the following report of awards of premiums and gratuities:

To Sallie G. Sargent, West Amesbury, for Hair Work, $1; Mrs. E. E. Langley, Lynn, Wax Cross, $1; Mrs. Daniel Palmer, Haverhill, Skeleton Wreath, $1; G. H. P. Palmer, Haverhill, Model House and Brackets, $1; Emma Stuart, Mat, Tidy, and Worsted Work, $2; Katie Bartlett, Lawrence, Paintings in Oil and Water Colors, $1; James H. Hodgdon, Bradford, (soldier without arms,) Oriental Painting, $3; A. G. Taggart, Haverhill, Toy Bedstead, $1; George F. Seaver, Haverhill, Fancy Dressing Case, $2; E. A. Bartlett, do, Carriage Blanket, $1,50; Emma Merrill, Bradford, do. $1; Miss Lucy Caldwell, Haverhill, Embroidery, $1,50; M. M. Huntington, Amesbury, Butternut Toy Furniture, $1; Miss Mary E. Merrill, Haverhill, Patch Work, finished at 8 years of age, $3; Dr. Russell, Haverhill, Wax Flowers, First premium, copy of Complete Guide to Ornamental Work; Miss Marsh, do., Glass Wrought Pictures, Night and morning, copy of the same Work; Miss H. E. Woodbury, do., Carriage Blanket, copy of the same.

To Mrs. G. W. Wallace, Farmer's Wreath; Mrs. George Ayer, Model House; 75 cents each. Mrs. P. E. Pearl, Bradford, Worsted Tidy; Mrs. John D. Glines, Haverhill, Wrought

Table Cover; E. Bradley, do., Toilet Box; Miss A. E. Bean, do., Embroidered Skirt; Miss E. H. Stevens, do., Watch Case and Cushion; Mrs. B. P. West, do., Tidy; Mrs. Eliza L. Kimball, do., Sampler; Mrs. Isaac Hardey, do., Wrought Night Dress; Mrs. Emma N. Stevens, do. Wrought Cushion; Mrs. Emma Fitts, do., Wrought Cushion; Mrs. Emma L. Davis, Bradford, Wrought Suspenders; Mrs. Eben Webster, Haverhill, Needle Work; Fannie Horne, Bradford, Hanging Bead Basket; E. J. Greenough, Haverhill, Sofa Cushion; A. C. Kenrick, Haverhill, Worsted Tidy,; George Chase, do., Fancy Box; A. E. Atkinson, Newburyport, Worsted Bracket; Lucy E. Bayley, do., Sofa Pillow; E. H. Batchelder, do., Cross and Autumn Leaves, in Wax; Georgiana Morse, Tidy; E. Noonan, Model Ship; Mrs. H. T Elliott, Bead Watch Case; Annie H. Whittier, 8 years old, Stockings; Mrs. Samuel Davis, do., Hair Work; Mrs. G A Furbush, do., Hair Work; Miss F. S. Bennett, do., Autumn Leaves in Wax; Mrs. John Perley, Bradford, Autumn Leaves; Mrs. Abbie Stevens, Feather Basket; Mrs. Paul Lunt, Newburyport, Cloth Shoes; W. Richman, Haverhill, White Stockings; Mrs. Hannah Bryant, do., Tow and Linen Cloth; Miss M. G. Bradly, do., Pillow Shams; Miss M. E. Snow, do., Wrought Watch Case; Miss Mary Hewes, do, Bead Watch Case; Miss Lizzie Riley, do., Bead Watch Case; Hattie Potter, do., Watch Case and Tidy: Mrs. G. A. Furbush, do., Stockings from hair of a poodle dog; Mary Batchelder, do., Linen Thread; Miss E. W. Hammond, Haverhill, Wrought Slippers; Mrs. Charles E. Gould, do., Wrought Slippers; Mrs. G. W. Geary, do., Wax Fruit and Flowers; Sophia K. Adams, do., one pair Hose; H. M. Hubbard, do., Moss Work; Maggie P. Palmer, Crayon Drawings; Mrs. Harrison Sawyer, Embroidery; Miss Mary E. Le Bosquet, Wrought Handkerchief; A. M. H. Greenman, Oil Painting; R. H. Schogan, Haverhill, fancy Work Box; A. J. Fernald, do., Case Wax Work; Mrs. O. S. Lovejoy, do., Dried Flowers; Mrs. R. E. Harper, do., Lamp Mat; Mrs. F. O. Raymond, do., Cross; C. E. Hackett, do., Silk

Embroidery; Cynthia Smith, do., Stand Cover and Worsted Bracket; Cora L. Savory, do., Pin Cushion;—50 cents each.

Committee—E. P. Hill, Hayden Brown, Edwin Mudge, M. J. Dole, Dudly Porter, Charles B. Emerson.

FARMS.

The Farm of Richard Webster, situated in Haverhill, West Parish, having been offered for premium, was visited by the Committee, on the 27th of August. Mr. Webster's Statement which is appended, presents most of the facts connected with the purchase, and the improvements made upon the farm. It will be seen that this farm is a small one, about 40 acres being the whole amount included in tillage and pasture, and a considerable portion of this is still unreclaimed. The condition of the land prior to its passing into Mr. Webster's hands in 1859, was not very inviting, being poor and rocky. Mr. W. was a carpenter by trade, having little or no experience in the cultivation of the soil. He was driven to seek out-of-door employments, by the threatening aspects of pulmonary disease which was making rapid inroads upon his constitution. He resolutely took hold of the business of cultivating and improving his land, so far as his impaired health would permit; built a small but comfortable dwelling-house; erected a grain house; put an old barn upon the premises, in order to receive his scanty crops; and struggling against the adverse influences of physical weakness and scanty means, has in seven years accomplished so much as to lead him to venture upon submitting his farm for examination, with the view of obtaining the Society's premium.

What has Mr. Webster accomplished? His brief statement affords a tolerably clear idea of what has been done. A considerable area of his land is now under clean culture; the rocks are removed; portions are under-drained; the stone walls have been to a large extent rebuilt; orchards have been planted; pasture land cleared of bushes and stumps, and planted with corn and other grains. He has also erected a substantial and convenient barn during the past year, and the committee found it well filled with hay and grain. The barn is admirably arranged with the view of affording comfort to stock, storing roots, as well as hay and grain, and saving manure. Mr. W. like all sensible farmers, makes a great point of economising and increasing manures. The receptacle in the barn cellar for holding the excrement of his animals, is of brick, with cemented bottom; thus adapting it to retain the liquid as well as the solid portions. No point in successful husbandry is more important than this. The liquid excrement of an ox or cow, is actually worth more than the solid, as a fertilizing agent, and every ounce of it should be saved. A manure bin, like that of Mr. W's, below the stalls of a dozen animals, will from its liquid condition, require the daily admixing of large quantities of chaff, muck, soil or peat, to act as absorbents; and the amount of active plant aliment thus secured, is surprising to those who treat their manures in the ordinary wasteful manner.

The committee in the examination of Mr. Webster's farm, were highly pleased with the results of his labors. It was evident, however, that the work of renovation was but partially completed. The element of time must enter into all undertakings for the improvement of lands, and a few years more are required to place the farm in a condition to meet the Society's requirements as a *premium* farm. There is much to be done in connection with lands immediately around the farm buildings. In the march of improvement, the fences, gates, drive-ways, etc., have not been reached. These will doubtless soon receive attention at the hands of the industrious and persevering owner, and the committee cherish expectations that

the time is not far distant when it will be a model farm, and entitled to the Society's highest premium.

In view of the energy and intelligent industry displayed by Mr. Webster, resulting in so many farm improvements, the committee award a gratuity of thirty dollars.

For the Committee—James R. Nichols.

STATEMENT OF RICHARD WEBSTER.

The farm I enter for a premium, I bought in 1859 for $1950 00, and it contains about forty acres. Fourteen of this was called field land; the remainder bush pasture, with alders, birches, etc., and about one hundred cords of oak, pine, and maple wood standing, and would pasture three head of cattle; and I wintered the first year I was on the farm—1860, one cow and horse, by buying about a ton of hay. Around all of the walls in the fields, was a margin of bushes from three to fifteen feet wide, being sprouts from oak, ash, cherry, and other stumps, which I had to dig out by the roots; and by many of the walls loads of stone had been dumped for the sake of convenience. In one field I hauled off over thirty cords; in other fields were a large lot of boulders, and I blasted about three hundred, around many of which were bunches of bushes growing. In one of my best mowing fields of four acres, I cut in 1860 less than three quarters of a ton of poor hay. The blasting has been done principally by myself, and required over seventy pounds of powder. When I commenced on this farm, I had no experience in farming, having spent my time previously mostly at mechanical pursuits, and went to farming on account of ill health. I had done no work of any amount since the spring of 1857, and was far from well when I began farming. I commenced a series of accounts with different crops to see which was the most profitable to raise, and have kept accounts on crops five years, and on farming up to

the present time. The first four years' work, as will be seen by my expenses, was done at a loss, but since then there has been some improvement. My losses have been partly on experiments, of which patent manures have formed a prominent part, as I have tried all the different kinds which I heard recommended, from Pacific guano down to poudrette, which I found expensive experimenting, though it may be profitable in the end. In experimenting on crops I found out some things that did not correspond with views I heard expressed by those who claimed to be posted in farming, and very different from what I had myself supposed. To convince some of this, I have planted crops side by side in the different ways. I have labored under a great inconvenience sometimes in help, as it was a hard task to get the sleight-of-hand way of doing work as practised in some parts of Maine and New Hampshire, out of their heads. Some think it profitable to half hoe, half manure, and half do work generally, but I do not. I think it more profitable to take care of one acre well than to have two acres half taken care of. I have been over all of the farm thoroughly, taking out stone, under-draining, etc., excepting about twelve acres of pasture, which I intend to improve as fast as I can, taking up some each year. I have under cultivation about eleven acres this year, and cut from the balance of the field land (estimating 525 feet for a ton in bays,) some over thirty tons of hay, and have fed three horses with hay since June 26th. In expenses of farm, is reckoned taxes, interest, depreciation of stock, wear of tools, board of help, blacksmith's and other bills; and in income from the farm all crops, milk, labor done from farm by help, mowing, etc. I have set out 450 pear trees at a cost of $420, and 280 apple trees costing $75, and in 1865 built a barn at a cost of about $3000 00, in which the saving of manure alone has paid the interest of it since it was built. In 1860 all I sold and harvested as shown by the farm account taken Jan. 1st, 1861, amounted to $873 31, and expenses aside from building, were $464 25. My crops were mostly corn, potatoes and grain.—

The same year I built a house at a cost of $550, and a granary which cost $150. In 1861, I sold from the farm the amount of $652 33, and my expenses were $688 33. In 1862, I sold from the farm the amount of $693 67, and my expenses were $834 16. During this year I built over most of my line walls, put in under-drains, cut bushes, etc. In 1863, I sold $1115 80, and my expenses were $1083 80. In 1864, I sold $1945 50, and my expenses were $1371 00. In 1865, I sold $2274 16, and my expenses were $1763 00. This year I built my barn, and we had considerable extra work in digging cellar, hauling stone, lumber, etc., besides working on the farm. In 1866, I sold from the farm $2595 83, and expenses were $1647 70. This year, 1867, my crops are not as good as in years previous, but prices have been better, so that my sales will not be far from what they were last year. What the farm is worth now, I could not exactly tell, and as it is not for sale, I do not wish to set a price upon it, but others call it worth all the way from $5000 to $8000.

IMPROVING PASTURE AND WASTE LANDS.

The Committee on improving pasture and waste land, have had no entry for the former and but one for waste land—that of Richard Webster, of Haverhill.

Three of the Committee visited this piece of land in September, and were pleased with the improvement made upon it. It will be seen by the statement of Mr. Webster, that he was liberal in his expenses, having spent over twelve hundred dollars for labor, seed and manure, on less than three acres, in three years, but large as the expenditure was, the income was still larger. We have looked at the amount of sales from this

piece for the three years, with some care. It will be seen that the prices were the highest retail ones, so that he must have carried them to the consumer. He was fortunate in having a large part of it planted with potatoes in 1864, which he sold for $430. Again in 1865, he was fortunate in having so many squashes when they sold high. In 1866, his crops appear to have been much larger, but his sales were not so great. He has not given us any estimate of the expense of marketing the crops. In the balance which he has struck, it appears that he has made $965 15 by his operation. The Committee think that twenty per cent. should be deducted for marketing; and if we leave out of the account the $350, the estimated improvement of the land, we shall have about $350 gain.

Mr. Webster says that he was not bred a farmer, but he appears to have the faculty of disposing of his produce well.— It is pleasing at the present time, when so many are disposed to live between the producer and the consumer, to find one who deals directly with the consumer. The Committee would award to him the first premium of $15.

For the Committee — William R. Putnam.

STATEMENT OF RICHARD WEBSTER.

Account with Pasture Lot No. 4.

1863.		Dr.
To Labor, ploughing, etc.,	$26 25	
Turning sods at odd jobs,	10 00	
		$36 25
1864.		
Harrowing, digging out roots, hauling off stones, etc.,	15 00	
Furrowing, dunging out and planting,	35 00	
30 bushels potatoes for seed,	30 00	
6 quarts corn,	60	
15 cords manure,	110 00	
Amount carried forward,	190 60	

Amount brought up,	190 60	
Hoeing, etc.,	40 00	
Harvesting,	38 00	
Interest and taxes,	15 00	
Ploughing in the fall,	18 00	
Digging out bushes ; stone & underdrain,	100 00	
		$401 60

1865.

Ploughing and harrowing in Spring,	18 00	
Furrowing, dunging out and planting,	30 00	
20 cords manure,	160 00	
Hoeing and weeding,	42 00	
Potatoes, corn, squash, peas & tomato seed	20 00	
Interest and taxes,	17 00	
Ploughing and draining in the Fall,	75 00	
Harvesting,	35 00	
		$397 00

1866.

Ploughing and harrowing in Spring,	18 00	
17 cords manure,	170 00	
Furrowing, dunging out, planting, etc.,	40 00	
Corn, cabbage, squash, peas beans, for seed	18 00	
Hoeing, transplanting, etc.,	45 00	
Interest and taxes,	18 00	
Harvesting,	30 00	
Ploughing, harrowing, brushing and rolling land, and grass seed,	28 00	
Labor in getting out stone,	25 00	
70 pear and 60 apple trees,	90 00	
		$482 00

1867.

Labor cutting and getting in hay,	10 00	
Interest and taxes,	20 00	
Picking stone, hoeing, manure, seed, etc.,	40 00	
		$70 00
		$1386 85
2 7-8 acres land worth '63,		120 00
		$1506 85

1864.				Cr.
	By 50 1-2 bushels potatoes,	$3 00,	$150 00	
	350 " late "	80,	280 00	
	20 " corn,	1 00,	20 00	
	Early corn,		15 00	
	Fodder and turnips,		20 00	
				$485 00
1865.				
	Pease sold and seed,		45 00	
	Tomatoes,		90 00	
	6 1-4 tons squashes,	60 00	370 00	
	170 bushels corn in the ear,		150 00	
	2 1-2 tons fodder,		20 00	
	125 bushels potatoes,		105 00	
	1-3 acre fodder corn,		15 00	
				$795 00
1866.				
	180 bushels potatoes,	60	108 00	
	8 1-2 tons squashes,		255 00	
	Sweet corn sold,		105 00	
	Cabbages sold,		160 00	
	Peas and beans,		22 00	
	Turnips,		12 00	
				$662 00
1867.				
	3 1-2 tons hay estimated,		70 00	
	Carrots, beets, tomatoes, etc., estimate,		75 00	
				$145 00
	Stone hauled off,		25 00	
	2 7-8 acres land worth,		350 00	
				$375 00
				$2462 00
	Dr.,			1506 85
	Balance,			955 15

This piece of pasture land was as rough as any on the farm, being mostly overgrown with alders and birches; the balance with huckleberry bushes, and all more or less covered with stone, some 150 being necessarily removed by blasting. It is now all underdrained with stone drains, three and a half feet below the surface and about eighty rods in extent.

GRAIN CROPS.

The Committee on Grain Crops report that only two claims were entered for premium; one by Oliver P. Killam, of Boxford, for his crop of Indian Corn, and the other by Eugene W. Day, of Bradford, for Oats.

Mr. Killam, it appears, had 3 3-4 acres in Corn. The estimates in his statement refer to the whole piece. One measured acre of this Corn yielded 84 3-4 bushels of 80 pounds per bushel. Two of the Committee saw Mr. Killam's Corn when a part of it had been harvested. It is an eight rowed variety with a very large kernel. Some 300 bushels of uniformly large ears were then lying on the floor of his Corn chamber and presented a magnificent appearance. The acre *measured* was then standing, and as we went through it, we were satisfied that the yield was unusually large. We noticed that this Corn, as in most cases where a very large crop has been obtained, was closely planted, the rows being only three and one half feet apart each way. There were no missing hills, and the allotted number, four stalks, were in nearly every hill, each stalk bearing its full ear. Heavy seeding, and then leaving to grow, only strong and vigorous plants, contributed largely to secure this important element of a large crop.

The cultivation was judicious, though many good farmers would demur in regard to burying most of the manure eight inches beneath the sward. It appears that 20 1-3 loads per acre of barn manure were ploughed in, and 5 1-3 loads per acre of good compost were put into the hill to start and feed the plants until they reached the ample nourishment buried below. It was cultivated both ways three times, and regularly hoed twice, and then the weeds were knocked out with the hoe. No hill was made.

This very large crop, obtained in a season not remarkably good for Indian Corn, was raised on a field from which the whole crop of hay in 1866, was taken off in two loads.

Two things are worth noting: 1st. the fodder from this

Corn is worth as much as a fair crop of hay; 2d. It will pay for a farmer to raise his own Corn.

In Mr. Day's statement, it will be noticed that one tenth of the land was sowed with a sort of Oats which proved almost a failure.

The Committee unanimously award to Mr. Killam for his crop of Corn, the premium of $10.

They also unanimously award to Mr. Day, the offered premium of $8, for his crop of Oats.

For the Committee — John Keely.

STATEMENT OF OLIVER P. KILLAM.

The land upon which was grown the crop of Corn which I offer for premium, possesses a dark, gravelly, loamy soil; and in the years 1865 and 1866, English hay was raised upon the same without the use of any manure. For a Corn crop, the ground was ploughed once eight inches deep, just before planting, and 76 loads of manure turned under. The ground upon which the Corn grew measures 3 3-4 acres. The land was harrowed and furrowed, and manured in the hill with twenty loads of compost. The cost of ploughing was $22 50; of harrowing and furrowing, $10; and the value of the manure —24 cords—on the ground, was $192 00. The field was planted from the 20th to the 30th of May, 3 1-2 feet apart each way, with 37 1-2 quarts of yellow eight rowed Corn.— The cost of seed and planting was $25. The field was cultivated three times each way, and hoed twice before haying, and the weeds were also knocked out with hoes on the 10th of August. The cost of cultivation, including weeding, thinning, and clearing out weeds, was $30. The top stalks were cut off from the 16th to the 21st of Sept., and the Corn was got in and husked from the 20th of October to the 7th of November. The cost of cutting and securing the stalks, was $15; of harvesting and husking, $35. Amount of Corn produced on

3 3-4 acres, 600 bushels in the Ear. Estimated amount of top stalks, 40 tons; valued at $60. Estimated amount of butt stalks, 8 tons; valued at $64.

This certifies that I measured one hundred and sixty rods of land in corn, on the field of Oliver P. Killam, and no more.

WILLIAM FOSTER.

North Andover, Nov. 2d, 1869.

I hereby certify that Oliver P. Killam, appointed for that purpose by the Committee on Corn Crops, appeared before me and took oath that he has ascertained the weight of the crop, on the acre of land measured as above according to the regulations of the State Board of Agriculture, on the eighth day of November, and that it was 6750 pounds.

JOHN F. KIMBALL, Justice of the Peace.

STATEMENT OF EUGENE W. DAY.

The land upon which this crop of Oats was raised, was formerly covered with a heavy growth of oak timber, and it was next used thirty years as a pasture. Within a few years it has been converted into a field. In 1865, it was planted with corn and potatoes, the quantity of manure used being forty cart-loads of common barn-yard manure upon the lot. In 1866, it was again planted with corn and potatoes, with the same quantity of manure. The crop each season was excel lent. In April 1867, it was ploughed to a depth of seven inches, and sowed with Oats (upon the furrow,) and then harrowed twice. The crop measured one hundred and sixty-four bushels of good Oats, thirty-two pounds per bushel, and several bushels of a lighter quality. No manure was used in 1867. The amount of seed used was ten bushels, one bushel

of which was Delaware Oats, which rusted badly, grew rank and lodged, and were otherwise very much damaged by a flock of thirty hens and turkeys.

From actual measurement, I hereby certify that the land which the above crop of Oats covered, contained three acres, and forty-one rods, and no more.

B. P. CHADWICK, Acting Surveyor.

Essex ss, November 4, 1867. Subscribed and sworn to before me,

JEREMIAH P. JONES, Justice of the Peace.

N. B. No person was appointed by the Committee, to measure this crop of Oats, for the reason that a portion of them were measured and sold, before all the crop was winnowed, and before I thought of entering the crop for premium, but the statement of 164 bushels, actual measurement, is correct.

E. W. DAY.

Essex, Nov. 4, 1867. Subscribed and sworn to before me,

JER. P. JONES, Justice of the Peace.

COST OF CROP.		THE CROP.	
Ploughing,	$12 00.	164 bushels of Oats,	164 00.
Harrowing,	5 00.	2 1-2 tons of Straw,	45 00.
Cost seed & sowing,	10 00.		
Harvesting,	13 00.	Total,	$209 00.
Threshing,	14 00.	Cost,	59 00.
Marketing,	5 00.		
	$59 00.		$150 00.

TREADWELL FARM.

To the Trustees of the Essex Agricultural Society:—

The Committee on the Treadwell Farm was notified to meet at the farm, April 8th. Present at that meeting, Messrs. B. P. Ware, F. Dodge and C. P. Preston. They found the farm and buildings in a creditable condition, except that the house required some inside repairs, to make which they allowed the tenant, Mr. A. H, Gould, a sufficient sum.

They also found that the house requires new sills and other slight repairs on the outside, and respectfully ask the attention of the Trustees to the matter.

On measurement, by Mr. Ware, of the manure on the farm, ready for application to crops, it was found to amount to sixty-four cords, of a good quality.

The Committee received of Mr. Gould, Two Hundred and Fifty Dollars rent for the year past, from which twenty-five dollars was deducted for inside repairs on house, leaving a balance of two hundred and twenty-five dollars, which was paid into the Treasury.

Another meeting was held on 4th inst. Members present, Messrs. J. L. Newhall and C. P. Preston. Mr. Gould stated to the Committee that he had applied 90 cords of manure on the farm the past season, of which a portion was used in top-dressing grass lands—the remainder applied to the following crops:

4 acres oats, produce, 160 bushels; 1 acre potatoes, produce, 25 bushels (lost most of the crop by rot;) 1½ acres carrots, produce, 950 bushels; ½ acre mangolds, produce, 50 bushels; 1 acre ruta bagas, produce, 200 bushels; ¼ acre early summer turnips, produce, $100; ¾ acres beans, produce, 4 barrels; 2 acres round turnips, produce, 200 bushels; English hay, estimated at 12 tons; meadow hay, estimated at 10 tons. 20 bushels of cranberries were produced on the meadow.

15 acres of land have been sown to winter rye, with grass seed, and heavily manured—the policy of Mr. Gould being to

get the land in condition for a crop of grass as soon as a liberal allowance of manure will accomplish that object.

It will be seen that in the application of manure Mr. Gould has exceeded the amount stipulated in the lease, by 40 cords, the past season. He has, however, not applied the *muck* required, as the meadow from which it is to be taken produces a large crop of cranberries, and he doubted the expediency of destroying its utility for that purpose, but expresses his willingness to remove the muck, if thought best by the Trustees.

It is not yet time to see any remarkable improvement in the farm from the liberal treatment bestowed upon it by the tenant, but your Committee have no doubt that a large increase of crops next year will result from the heavy application of manure the past seasons; and they cannot too highly commend the tenant for his disposition to apply a much larger quantity of manure than he was required to do by the terms of his lease — thus showing his determination to bring the farm to such a state of fertility as will make it a credit to himself and to the Society.

The Committee regret that so little interest is manifested in the farm, as is shown by the meagre attendance at our meetings.

Committee — Charles P. Preston, Benjamin P. Ware, J. L. Newhall.

MANURES.

The subject of manures and fertilizers, and their application, has been so fully discussed during the last year in the agricultural journals, that it is with some hesitation that your commit-

tee presume to offer opinions or suggestions concerning them. But as much good to the farmer's interests is believed to have been done by the statements of several series of experiments with manufactured fertilizers, published in our Transactions of 1866, a further consideratien of the subject may be admissable.

The question how can the farmer maintain and increase the fertility of his fields, and also secure an annual remunerative crop, is one of paramount interest to every cultivator of the soil, and at the same time difficult to answer. The result of the carefully conducted experiments before alluded to, and many others which, after the ice was once broken, were made public by modest experimenters, who did not care to stem the flood tide of popular advertisements and endorsements of the various nostrums for securing universal fertility, is, that they do not answer the desired end. What little fertilizing quality they possess will not pay the cost of them. We mention, for instance, the flour of bone. No one questions the great fertilizing properties of bone, but that the flour of bone is in a condition to be immediately assimilated by plant growth, it therefore fails to answer the purpose required of it. Hence the farmer who earns his money cannot afford to pay the high price demanded for it when he can buy the pure unground bones for one-third the price, and reduce them at a small expense to a condition readily assimilated by all plants.

Mr. Henry Coleman uttered a valuable truth when on being asked "what has chemistry done for the farmer?" he replied that it had dissolved bones by sulphuric acid.

Nor is it for a moment questioned that Peruvian Guano is a very valuable specific fertilizer, but as a general thing its high cost places it beyond the reach of the practical farmer. Fish pomice or guano, is sold at a comparatively low price, is unadulterated, makes a valuable compost, and may perhaps be afforded. Many of the articles offered in our markets as fertilizers at high prices, recommended as being entirely inoffensive to the most fastidious, may be well adapted to those who would farm with kid gloves on, and to such only can we recommend them.

What then are the resources of the farmer for manure?—We answer—the barn yard, the stable, the privy, waste animal and vegetable material, whether grown upon the land or in the sea, all of which should be husbanded with the utmost care, their volume and power multiplied by composting with peat, loam, and in some cases sand. As much poudrette can be made from a single load of night soil by composting it with meadow mud or muck, as can be purchased for twenty-five or thirty dollars; and of as good quality. Sea manure, consisting of kelp and the various sea mosses, or rock weed when mixed with an equal quantity of muck, will make a compost equal in quality with the best stable manure. The farmer having secured as great a quantity of these materials as possible, has yet another resource, unlimited in extent, easy of access, and with the materials already at hand, may increase the fertilizing capacity of his manures immensely.

Chemistry informs us that plants are enabled to absorb large portions of three of the four organic elements which constitute them, through their leaves, viz., Carbon, Oxygen and Hydrogen, while the fourth Nitrogen, though constituting four fifths, of the surrounding atmosphere is not thus absorbed, as has been proved by careful experiment; but must be supplied through their roots. According to the estimate of a careful chemist, three fifths of the value of barn-yard manure is the Nitrogen that it contains. Now the question arises, how can the farmer within his own means, draw from the never failing fountain that nature has so generously provided, and appropriate to the growth of his crops. It is well known that nitre or saltpetre is manufactured by composting animal and vegetable manures with loam, meadow muck and other earthy substances. In short, a good thorough compost heap, well worked, will accumulate nitric acid from the atmosphere in proportion as it is worked over and exposed to it. France has in time of war manufactured two thousand tons of saltpetre annually in this way. Why not make the same effort to promote the peaceful art of Agriculture? An economical, and it is believed a suc-

cessful method of accomplishing the same end, is to apply the manure made during the summer, directly to the land, and ploughing it in after harvest, and then ploughing twice in the spring before planting, thereby making a nitre bed of the whole surface of the field. This process seems to be justified by the principle upon which every good farmer composts and pitches over manure to increase to the utmost its fertilizing power. This method would not be advisable on what is called leachy land, but on other soils it has been practised with much success. Some of the largest root crops ever known to your Committee, were grown upon land where this method of applying manure in the fall was pursued. The object of the Committee at this time, is not to treat this great subject at length, but simply to draw attention to a few important points.

Committee — Benjamin P. Ware, Henry Hobbs.

FOREST TREES.

The Committee on Forest Trees submit the following report:

The planting of forest trees to supply the waste of a native growth and to cover acres of unprofitable land, with beauty, ornament and value, is worthy the attention of Agricultural Societies.

The Essex Agricultural Society, in coincidence with this idea, has instituted two premiums, the highest of which in my judgment is too trifling for such an enterprise; but which out of respect to the efforts of Dr. E. G. Kelly, of Newburyport, who offers his grounds for the claim, should be respectfully awarded him. According to his written statement, which accompanies this, it is evident, that with a different design in his mind, with regard to planting, he considers himself as fulfilling the conditions; to which conclusion I render my assent.

The third day of October last, was assigned the Committee to visit and examine Dr. K.'s grounds, with reference to awarding the prize. I was the only one of the Committee who was on the spot as directed; and with the exception of the Chairman (B. Perley Poore), who sent an explanatory note of his absence, no member has been heard from. The following remarks, which are to be found in this Report, are therefore entirely and wholly mine own, and I am alone responsible for them.

The land used for artificial growth of forest trees, is an area of seventeen acres, situated on High Street, and therefore bounding on a central and conspicuous portion of the city, amidst elegant residences and substantial dwelling houses.— Its entire surface is not planted out, that is to say, the surface of the land is not covered over, as is usual in forest tree culture: but the plan of the Society's premium does not necessarily contemplate such a contingency. It simply specifies certain kinds, and requires a fixed number of individuals. Not having at my command a list of Dr. K.'s trees, I am not able to state whether all the kinds are growing on his grounds; indeed it would be difficult even if I had such a list.

The Society doubtless had some reasons for limiting the conditions by specifications of kinds, but I think it an objectionable arrangement. As to number, counting separately the trees in all stages of growth, employed, they would far exceed that required. Dr. Kelley, I presume, is aware of these facts, yet I deem him justified in putting in his claim, on a constructive interpretation of the language. To encourage similar plantations of rare, curious and ornamental foreign species, suitable to the climate of New England and of value to our country, the highly ornamental grounds of the Doctor should be admitted to the claim from the Society of its highest premium. Indeed, if a suggestion be not out of place here, would it not be well that the Society offer its present first prize or premium for this especial end; and increase the amount of a new premium based on a stringent adherence to conditions published by its

Secretary. As they now stand according to the "Order of Arrangements for Premiums and Committees for 1867," the White Oak, Yellow Oak, Locust, Birch, White Ash, Maple, Walnut, or White Pine, are expected to be grown in such plantations as compete for the premium. But when it is considered, that the list though an admirable one, defines trees which require a particular soil for their growth, if intended to be a permanent one and already an incipient forest, the reward by the premium or honor of the Society, should be more proportunate to the skill, labor and care essential to the experiment. Mixed and miscellaneous planting even of other than native kinds as specified in the list, will always succeed best and be the most satisfactory. This is proved by such plantations as Dr. K.'s, and by others which have been tried elsewhere. The importance of such labor on the land cannot be seen at first; time is requisite to develope it entirely. Every year, however, convinces the experimentalist, that it is a wise economy which provides for the future, in labors whose results are distant and afar off.

The grounds of Dr. Kelly were, when taken in hand, almost destitute of any tree growth. A few old pear and apple trees of shattered and venerable appearance, still stand as memorials of olden time. His mansion standing in such a position as to be exposed to the street, is now, after twelve years' cultivation of the front area, beautifully shaded and sheltered from observation. The free use of evergreens has yielded in this brief time to the front of the house, a deep shaded grove, resonant with the murmur of pines; while the ground beneath is carpeted with their dry, brown, needle-shaped leaves. Under this shade and in this seclusion, some of the finest shrubs are growing freely, both native and foreign species. Here may be seen the snowy-flowered dogwood cornel, the fragrant sassafras, whose rich colored berries attract rare and superb birds; the mespilus, beautiful alike in flower and fruit; the crab-apple in many varieties, always attractive; the bloody or red willow, whose brilliant crimson stems glisten in winter and contrast

with soberer stalked shrubs ; the smaller and prettier maples, the viburnums prized for flower or for berries, and many of the novelties from Japan. Masses of rhododendrons and kalmia, and the holly-leaved barberry of the Rocky Mountains, help also to render this retreat a magic scene, in summer's heat or winter's cold.

It can be seen at a glance, that the close growth of so many shrubs and trees would be injurious to their health and vigor, unless judiciously thinned and trimmed. This has been done on hard and soft wooded kinds alike. Once it was thought that the resinous trees would not patiently bear the knife, but the visitor will see here, solid columns of perennial greenery of different heights, formed by topping and pruning, somewhat after a style of old fashioned gardening known as topiary work. By this process, while novelty of shape is realized, pleasant vistas to the street are opened.

It will be unnecessary to particularize the other features of this spot, as the remarks of Dr. K. offered to the Society, with better knowledge of details, will do this more satisfactorily.— Suffice it to add, that very many rare and valuable trees of finest proportions, rapid growth and pleasing foliage, were at the time of my visit objects of my notice and admiration.

The frequent use of thick and substantial hedges for protection and shelter, is deserving a passing remark. The hemlock has been principally used—an evergreen tree, which when young proves admirably adapted to the necessary shearing.— The Norway spruce is another species employed, and produces a fine effect by its compact, solid growth. For screens, the white cedar, cypress or arbor vitæ, blended with other trees, has been used. I have before, many years ago, seen the good effect of employing the arbor vitæ to make permanent, living and substantial screens from the Northern or Eastern winds. As the belt of a mixed growth of forest trees and evergreens, such as firs, spruce, pine, and hemlock, rises to the spectator's eye above the front planting, and in the rear, the slender and feathery spray of some birch, the tapering column of the fas-

tigiate oak, the curved apex of some weeping and curious kind of tree, blending in harmony, is extremely pleasing.

The planting of shade trees for the comfort and use of cattle, if not an entire novelty, is yet a combination of good taste and humanity. Some such a plan as begun by Dr. K., could be usefully pursued on any farm, and on some where the appearance and effect would be a secondary consideration. To convert rough and scorched pastures into sweet and attractive spots for man and beast, by grouping a few well and carefully planted shade trees, such as the broad limbed willows, or a fine thrifty elm, or the several maples at every one's command, would be worth the time that is sometimes spent very unprofitably at the grocery or some village resort. Then there are other rapid growing trees, which will thrive where grass will not even grow; and the beneficial effects on thin, poor soils, of planting the yellow locust, were years ago noticed and commented on by an honored member of your Society, whose name is yet repeated with affection in many a farm-house of Essex County. A noble tree of the canoe or paper birch, brought from New Hampshire, stands in the pasture ground of one of the oldest farms in Danvers—a specimen worth any one's while to visit.

I trust, if by the generosity of the Society, such efforts as Dr. K.'s should meet with favor, and the expression of the sense of their value be made by award of its first premium, that repeated invitations to visit other plantations of a similar or even more limited kind, would occur.

The value of the timber trees, whether of foreign or of native species, in a social and commercial point of view, should prompt the farmers of Essex county to experiment on these sorts of crops. The sturdy and weather beaten stumps and fragments of oaks yet to be seen on the rough pastures between Rowley and Newburyport, attest to the early character of that region for timber. In other sections of the State, I have met with similar ruins of beech woods, which seem to invite labor to reclothe the land with such vegetation. The Scotch larch,

of a more rapid growth than our species, has been found to grow most readily on the rocky grounds near Salem and Lynn, under the planting of R. S. Fay, Esq., and oaks from acorns plucked from seedlings of a third generation, may be seen on the farm of the late E. Hersy Derby, growing in various soils. The increasing taste for summer residences on the very marge of the ocean, seizes upon any tree form which will grow on the marine soils: and Emerson in his Report on the Trees and woody plants of Massachusetts, recommends the use of the pinaster of Europe or cluster pine, which has been successfully employed in France, to cover and turn to advantage the barren sands of the coast.

The artificial production of forests addresses the pocket of the farmer, whose family, if not himself, may be benefited thereby. Fuel and timber are among the prime articles on any farm; each coming from growths which need scarcely more than a let-alone policy when once fairly on the start, and paying all they promise on demand from the axe.

I do not expect to see such enterprises, so long as land is so cheap and our woods so vigorous; and still more so, when every farmer born on the spot he cultivates, inherits his wood-lot; and he who does not, can readily purchase: nor do I expect much until Agriculture rises in the estimation of the public; until patriotism enters into its calculations, giving to its future a little present foresight, and by a seasonable prevention avoiding a great coming evil. Should our Agricultural Schools and Colleges prove a success, and the great subject of the cultivation of the earth be studied, and in all its bearings considered, with its relations to a country's prosperity and very existence, the time may come when the barren and waste places shall be thus planted by the same hands and with the same pride and skill, that now lay out the wide fields of grain, redeemed from sterility or seized upon in their virgin freshness, and that garner a sure harvest, which science as well as industrious and honorable toil shall insure from season to season and from year to year.

The intimate connection of the forests with the meteorological character of countries, is too well known and understood to provoke incredulity. Countries periodically destitute of rain, and those where severe droughts may at any season occur, have been made or become so by the indiscriminate destruction of their woods; the cooling and condensing properties of lofty growing vegetation arresting and depositing the moisture always present in the atmosphere. In the newer States, where timber is only to be sought in narrow belts, and this too often of inferior sort, bordering the larger streams, droughts, such as New England with its green woods and piny clad hills, happily as yet has never known, are always to be apprehended.—It is by no means a fair inference, that because the drier portions of such States, like the rolling prairies, are treeless and their herbage the coarser grasses, that they will not produce a timber growth: the reason lies in the practice of annual burning, and in consequence of this conflagration, the inability of a young woody growth to appear. When this savage treatment of the soil shall cease, when Agriculture shall convert these broad acres into farms, and an enlightened policy shall plant the greatest variety of timber possible, the most frightful desert may blossom like the rose, and the parched surface be moistened with dews and gush with brooks and streams.

A celebrated naturalist, resident for many years in California, for researches among her forests, in speaking of the Red-Wood, a gigantic cypress, has observed this same result, where it covers the country with its growth. This species acts especially in no small degree in condensing the fogs and mists, turning a heavy fog into a rain as it strikes its limbs and tops, thoroughly wetting the earth and supplying springs of water during the usual dry seasons. The crops on the Coast Range are not liable to fail; and the springs in the vicinity are never in want of a full supply of water. So valuable are the services of these noble forest trees, that on their future and possible destruction, California will become a desert; on their safety depends the welfare of the State.

The amelioration of a soil by the moisture of the atmosphere, comes within the limits of Agricultural Science, and every one who in his way and in his own method, contributes to introduce the subject in a reasonable, economical and profitable point of view, is benefiting more than the area of his experiments and labors.

In conclusion, satisfied that your claimant is entitled to the respectful consideration of the Society, I award to him the first premium for the planting of Forest Trees.

John L. Russell — of the Committee on Forest Trees.

STATEMENT OF E. G. KELLEY.

In presenting the following Statement on the planting and culture of Forest Trees, we offer all the varieties, and many more in number, in the aggregate, than are required for the premium instituted by the late lamented Mr. Fay. It may be supposed that Mr. Fay intended more especially to encourage the planting of large forests as in England. But so diverse are the conditions of the two countries, that extensive plantations, if merely for timber, will seldom be undertaken here.

Other considerations and designs of no less utility, such as protection, renovation, and even ornament—for all forest trees may be called ornamental—should doubtless come under the same head. Nor should the natural or accidental disposition of trees be a sine qua non, though more gratifying to the sight than the staid and often regular rows of the artificial forests abroad.

The location and planting of trees for other objects than mere wood is therefore desirable, while their growth and cultivation should be something more than the usual custom of neglect. With these preliminaries—of suggestions for the Committee rather than intended influences—we submit our operations and arrangements.

We commenced about twelve years ago by setting out a row

of elms and maples, alternate, on the street. We also planted a great variety of forest trees on a belt 50 by 300 feet, the latter being the extent of our land on the street. This plantation includes the front of the house, with a driveway and walks lined with hedges.

The aspect of woods bordering a street in a city may be a novelty, but it subserves many good purposes. The exposure of the house and along the street was formerly very bleak. Already the protection of these trees from winds and storms, and during summer their cooling influences, are quite perceptible. Seclusion and shade are not the least of the objects obtained. While walking unseen, or seated in the arbor curiosity is not unfrequently gratified by the remarks of passers by!

Even woodcocks and mischievous rabbits frequent the thickets as game! and the number of songsters and other birds are a subject of general remark and delight.

In rear of this small forest are the pear orchard, lawn, and flower garden, all thus well protected on the north. The plan tation of pears is lined on its three other sides by a narrower belt, towering above the fruit trees, preserving the buds from frosts and the fruit from blowing off. The lawn or pleasure ground is also surrounded and studded with a rare collection of ornamental trees.

Next in order, is a grove, chiefly of evergreens, shading and protecting half-hardy and ornamental shrubs, ferns, pot plants, etc. Further on, hedge rows and tree screens from 3 to 30 feet high surround three squares devoted chiefly to small fruits, which must speak for themselves, each in their season, of the benefits of their protectors.

The orchards for standard pears and apples are not overlooked in this system of protection. Tree screens also enclose the kitchen garden, and the rapidity with which their roots extend in the deeply trenched soil, is more than offset by the early and luxuriant growth of the vegetable.

The chief utility perhaps of a thrifty enclosure to a pond—aside from its beauty and shade—is the number of dead ducks

annually secured! Surrounding the entire nine acres devoted to cultivation is a single row of Norway spruces, 8 feet apart, trimmed for protection in part to farm crops.

A pasture of seven acres adjoining, is being improved by shade trees. We had often observed our cows standing during the heat of mid-day on the highest portion of exposed land. On this elevation we have hundreds of trees, chiefly white pines, for future shade, in addition to the cooling breeze.

In surface draining this pasture a pond has been made for permanent water, in the centre of which is an island covered with trees, that our pet cows may choose between shade in the water or on high ground! The honey locust—gleditchtia tricanthus—is being tried here for a live fence.

Previous to planting any portion of even the forest trees, we generally drained and trenched, or where practicable, subsoiled the land. To this preparation of the soil we owe what little of success has been attained—what some have thought to be extra—together with the use of ashes annually, for some years. The undue anxiety of planters to see their trees set out, results too often in their merely living without a thrifty growth.—Draining is indispensable in some localities, but trenching is not a paying operation for trees if subsoiling can be effected.

Some years since, the worthy County society to encourage a practice common abroad, ventured to offer a premium for subsoiling; but our candid statement of the operation and the consequent growth of trees, so astonished the fogies of that day, that the representative body—the august trustees—through the notorious agency of a limited number, voted not to allow the prize already awarded by the appropriate committee!—They also abolished the offer for the future, meaning of course, their future, not all future time! The device of sending a special committee to see the evidence was not then thought of, as subsequently, in the case of Veracity vs. Marblehead Squashes and Cabbages!

A majority of our non-fruit-bearing trees were imported from France while very small, and at a moderate expense.—

Stumps of some of these cut down in thinning out, are a foot in diameter. Others of the imported lot, not then an inch in diameter, are now three feet in circumference. We would suggest to the doubting umpire on the subsoiling question, the propriety of inspecting the premises and products, even at this late day. It's never too late to learn, even in unofficial capacity! It is however peculiarly unfortunate that the science of agriculture should suffer through one's success being at the disposal of another's impulsive ignorance, uncontrolled by a sagacious body of men!

REPORTS OF COMMITTEES.

The Committee on Essays, Farm Accounts, and Reports of Committees who award premiums, report:

No Essays or Statements of Farm Accounts were received. Nine reports of Committees were placed in our hands by the Secretary, which were considered by us in awarding the three premiums offered for the best reports.*

At first thought, it might seem that a Committee to award premiums, had fully discharged their duty when such award had been made, but a little reflection convinces us, that making and publishing such awards is but an inconsiderable part of the duty which such Committees owe to the Society. As the mere distribution of a few hundred dollars per annum among successful competitors is but a small part of the real service which an Agricultural Society is supposed to render to the community of farmers, so the reports of the several committees, if merely

*The reports of Dr. Nichols, of Haverhill, and Rev. Mr. Russell, of Salem, were not received until after the Committee had made their decision, so that they were not considered as competing reports.

bald statements of awards, are of but little interest or value to those who are concerned in agricultural progress. These reports should give practical character and value to the "Transactions of the Essex Agricultural Society."

In farming, as much as in other pursuits, there is need of the changes and improvements which the changing times require. The farmer who keeps closely to the old paths and clings to the traditions and practices of his fathers, may not incur much risk of great immediate loss, but can be assured of diminishing profits from year to year, especially from the exhaustion of the soil and the increased cost of manual labor.—To secure the conditions of success in all departments of productive labor there is a steadily increasing demand for skill, and a close calculation of expenses on the part of those who are carrying them forward, and to this rule, farming is by no means an exception. How to secure a sufficient supply of fertilizing material to replenish wasted land, and how to economize and make more efficient the labor of man, are problems with many farmers, of difficult solution. As to the mode and the means by which the needed advancement in Agriculture is to be made, we must generally rely upon that experience which is every where the best teacher; the farmer however cannot afford to wait upon the instructions of his own experience in all things—life is too short for that, and the expense of schooling would often be too great. In taking the experience of others as a guide, that is mainly to be consulted which has been gained under conditions of soil and climate like our own, and where the cost of labor is nearly the same. It may be interesting to read of great crops raised a thousand miles away upon those fertile, virgin lands, where the deepest ploughing don't turn up the yellow dirt, which *we* find at so shallow a depth; or of how cheaply the necessary labor can be obtained where the rate of wages approximates the old standard of a penny a day; but such facts do not instruct us; we wish to know how we may restore to our soil, never extraordinarily fertile, but now much impoverished, the strength it has lost;

how we can make the verdure of a hundred years ago wave upon our gray and moss grown pastures ; and how the scarcity and cost of labor here, where men receive their $2,50 or $3,00 per day at times, may be compensated for by the use of the machinery, the invention of which has been so much stimulated recently by this very scarcity and cost. Our Agricultural Society is expected at its Annual Fair to collect and investigate to some extent the results of the labors of the enterprising and skilful farmers of the County for the year preceding, and the various Committees are to put upon record in their reports, the successful processes and results, with such suggestions and comments as the subjects prompt. Thus these reports, if as full, plain and practical, as they may be made by thought and labor, become very valuable additions to our Agricultural literature, and will furnish that summary of home experience which we see to be so important.

The Committee award the first premium of $8, to Allen W. Dodge, of Hamilton, for Report on Agricultural Implements ; the second premium of $6, to B. P. Ware, of Marblehead, for Report on Manures ; and the third premium of $4, to Joseph S. Howe, of Methuen, for Report on the Dairy.

For the Committee — Daniel E. Safford.

Dr. *E. H. Payson, Treasurer, in account with the Essex Agricultural Society,* *Cr.*

1866.			1866.			
October,	To balance former account,	$994 19	October,	By amount of premiums and gratuities awarded by the Trustees,		$1,000 25
	To receipts of Exhibition at Haverhill,	1686 42		By Expenses as follows:		
	To State Bounty,	600 00		Exhibition,	$1280 57	
	To Bank Dividends,	346 95		Printing,	359 80	
Decem'r	To rec'd of New Members,	237 00		Secretary,	100 00	
Jan. 1867	To Bank Dividend,	70 00		Postage, Express, Stationery, &c.,	44 37	
	To Railroad Coupons,	19 95		Colman Library,	33 50	
April,	To rent of Farm,	250 00		Treadwell Farm, insurance and repairs,	69 25	
	To cash of Gen'l Sutton for premiums,	75 00		Old Premiums, per order,	6 00—	1893 59
	To Bank Dividends,	371 45		By Investments in Bank Stock,		1006 75
July,	To Bank Dividends,	70 00		By balance of this account,		983 32
	To Railroad Coupons,	19 95				
	To Unclaimed Premiums,	143 00				$4883 91
		$4883 91				

Funds belonging to the Society.

16 shares Warren National Bank, cost	$1,595 40	Amount brought up,	$10,241 56
8 shares National Exchange Bank, par,	800 00	Cash on hand as above,	983 32
14 shares First National Bank, Salem, cost,	1,402 66		$11,224 88
5 shares First National Bank, Danvers, par,	375 00	Funds on hand in 1866,	$10,229 00
12 shares Mercantile National Bank, cost,	1,226 50	Gain in 1867,	995 88
23 shares Merchants' National Bank, cost,	1,189 50		
2 shares Salem National Bank, par,	200 00	The whole charge against the Treadwell Farm to date is	$934 28
15 shares South Danvers National Bank, cost,	1,471 25	The whole charge against Colman Library to date is	719 22
42 shares Asiatic National Bank, cost,	1,281 25		
Essex Rail Road Bonds,	700 00	E. E.	E. H. PAYSON, Treasurer.
	$10,241 56	SALEM, October 1867.	

The undersigned have examined the foregoing account of receipts and disbursements by the Treasurer, and also his statement of the funds belonging to the Society (showing a balance in his hands of $983,32,) and find the same correctly cast and well vouched.

WILLIAM H. FOSTER, } AUDITORS.
ASAHEL HUNTINGTON, }

SALEM, November 26, 1867.

OFFICERS OF THE SOCIETY,

FOR 1867-8.

PRESIDENT.

WILLIAM SUTTON, of South Danvers.

VICE PRESIDENTS.

LEWIS ALLEN, of South Danvers.
DAVID CHOATE, of Essex.
JOSIAH NEWHALL, of Lynnfield.
JOHN KEELEY, of Haverhill.

TREASURER.

EDWARD H. PAYSON, of Salem.

SECRETARY.

CHARLES P. PRESTON, of Danvers.

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JAMES H. DUNCAN, of Haverhill.
JOHN W. PROCTOR, of South Danvers.
ALLEN W. DODGE, of Hamilton.
JOSEPH HOW, of Methuen.

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Thomas J. Clark, Salisbury;
George Cogswell, Bradford;
Wm. B. Carleton, Haverhill;
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James Flint, Middleton;
Wm. Foster, No. Andover;
Alonzo B. Fellows, Ipswich;
Thos. P. Gentlee, Manchester;
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Joseph S. Howe, Methuen;
Henry Hobbs, Wenham;
E. G. Kelley, Newburyport;
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James P. King, So. Danvers;
Oliver P. Killam, Boxford;
George B. Loring, Salem;
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Samuel A. Merrill, Danvers;
James R. Nichols, Haverhill;
J. L. Newhall, Newburyport;
William Osborn, Lynn;
Isaac Patch, Gloucester;
William R. Putnam, Danvers;
John Perkins, Lynnfield;
Wm. A. Russell, Lawrence;
Calvin Rogers, W. Newbury;
Dan'l H. Stickney, Groveland;
Benj. P. Ware, Marblehead.

NEW MEMBERS—1867.

J. M. Barry, Haverhill;
Elbridge Battell, Newburyport;
William Cogswell, Ipswich;
George W. Chadwick, Boxford;
Gilbert Conant, Ipswich;
James T. Carleton, Bradford;
Wm. P. Clark, Haverhill;
James Dewhurst, Haverhill;
Hiram Day, Bradford;
Lafayette Day, Bradford;
Royal Day, Bradford;
W. W. Fowler, Wenham;
John P. Gilman, Haverhill;
James F. Gile, Haverhill;
George E. Herrick, Lynnfield;
Wm. Hazeltine, Bradford;
Thomas Hazeltine, Bradford;
Romulus Jaques, W. Newbury;
Joseph Knowlton, Hamilton;
Jonathan Kimball, Bradford;
Sylvester Kimball, Bradford;
David Kimball, Bradford;
Ira Libby, Bradford;
C. H. Lake, Topsfield;
Mrs. M. P. Little, Bradford;
J. G. S. Little, Haverhill;
Robert Manning, Salem;
Orrin Ordway, Groveland;
Asahel H. Patch, Hamilton;
John S. Preston, Danvers;
Otis F. Putnam, Danvers;
John Perley, Bradford;
John P. Peabody, Salem;
Daniel Peabody, Bradford;
Frank Peabody, Bradford;
Eben Sutton, North Andover;
John L. Shorey, Lynn;
S. C. Sleeper, Haverhill;
John A. Sears, Danvers;
Hiram Tozier, W. Newbury;
Horace C. Ware, Salem;
Alden B. Woodis, Salem;
Herbert E. Wales, Groveland;
Chas. A. Whittemore, Boston.

☞ Any citizen in the County may become a member by paying the sum of three dollars to increase the permanent funds of the Society, and he will receive a certificate of his membership from the Secretary. No fines or assessments are ever imposed. Members are entitled to the free use of the Library and a copy of the Transactions each year. All ordained Ministers of the Gospel residing in the County, and editors of newspapers, published therein, are entitled to the privileges of the Library.

LIST OF PREMIUMS, &C.

FAT CATTLE.

Mrs. M. P. Little, Bradford, for off ox,	1st premium,	$10
Mrs. M. P. Little, Bradford, for near ox,	2d "	8
Jas. H. Reynolds, No. Andover, " "	3d "	5

BULLS.

Joseph Kittredge, No. Andover, Jersey Bull,	1st prem.,	10
A. R. Fellows, Ipswich, " "	2d "	5
Wm. A. Russell, Lawrence, Dutch 1st premium Bull in 1866, for exhibition only,		mileage.

MILCH COWS.

Seth Kimball, Bradford, 1st premium,	15
John M. Barry, Haverhil, 2d "	10

HERD OF MILCH COWS.

William B. Carleton, Haverhill, gratuity,	15

HEIFERS.

Wm. A. Russell, Lawrence, for 3 yrs. old "Midwould," 1st premium,	10
Wm. A. Russell, Lawrence, for 3 years old "Fanny," 2d premium,	6
Albert E. Emery, Haverhill, for 2 yrs. old, 1st premium,	5
Eliphalet Davis, " " " 2d "	

Burr's Field and Garden Vegetables.

Seth Kimball, Bradford, yearling,	1st premium,	5
Wm. A. Russell, Lawrence, "	2d "	3
George E. Silsby, Bradford, calves	"	6

WORKING OXEN AND STEERS.

Francis Dodge, Danvers,	1st premium,	12
John T. Wood, Boxford,	2d "	10
R. S. Bray, Newbury, steers,	1st "	8

STEERS.

John Tarlton, West Newbury, for 2 years old,	1st prem,	5
Alfred Kimball, Bradford, for yearlings,	1st "	4
" " " "	2d "	3

STALLIONS.

E. Battelle, Newburyport, stallion over 4 yrs. old, 2d premium,	10

BROOD MARES.

William E. Kimball, North Andover,	1st premium,	15
H. W. Cheever, Haverhill,	2d "	10
Herbert E Wales, Groveland,	3d "	8

FAMILY HORSES.

J. G. S. Little, Haverhill,	1st premium,	10
James R. Nichols, "	2d "	8

FARM AND DRAFT HORSES.

James T. Carlton, Bradford,	1st premium,	10
R. S. Bray, Newbury,	2d "	8

COLTS.

Orrin Ordway, Groveland,	4 years old,	1st premium,	10
S. C. Kimball, Haverhill,	" "	2d "	5
Romulus Jaques, W. Newbury,	3 years old,	1st "	6
George Coffin, Haverhill,	" "	2d "	4
John Swinerton, Danvers,	2 years old,	1st "	5
T. Weed Quimby, Amesbury,	" "	2d "	3
John Gardner, Haverhill,	yearlings,	1st "	4
J. T. McDonald,	" "	2d "	3

SWINE.

C. E. Morse, Bradford, Boar,	1st premium,	8
Dan'l Carleton, No. Andover, breeding sow,	1st "	8
Michael McDonald, Haverhill, weaned pigs,	1st "	5

SHEEP — COARSE WOOLED.

J. P. Foster, North Andover, flock,	1st premium,	8
D. R. Webster, Haverhill, buck,	2d "	6

PLOUGHING — DOUBLE TEAMS.

J. L. Farnham, No. Andover, Hussey Plough No. 16, 1st premium,	12
R. T. Jaques & R. S. Bray, Newbury, Eagle Plough No. 20, 2d premium,	10
Cummings & Phelps, Andover, Doe Plough No. 7, 3d premium,	9
C. K. Ordway, W. Newbury, "Doe C" No. 7, 4th prem.,	8

PLOUGHING — SINGLE TEAMS.

Rich'd T. Jaques, Newbury, Hussey Plough No. 16, 1st premium,	7
Romulus Jaques, W. Newbury, Conical Plough No. 4, 2d premium,	6

PLOUGHING — WITH HORSES.

Wm. R. Putnam, Danvers, Holbrook's No. 98 Universal Plough, 1st premium,	10
Thomas C. Shattuck, North Andover, 2d premium,	7
James H. Duncan, Haverhill, 3d "	4

PLOUGHING — WITH SIDE HILL PLOUGH.

Pettengill & Allen, Holbrook's Swivel Plough, wood beam, No. 6, Topsfield, horses, 1st premium, 10
John T. Wood, No. 9 Swivel Plough, iron beam, Boxford, oxen, 2d premium, 8

PLOUGHING FOR SPECIAL PREMIUMS BY BOYS UNDER 19 YEARS OF AGE.

Charles Fish, Danvers, Holbrook's Universal Plough No. 94, 1st premium, 25
George Styles, Marblehead, 2d premium, 15
Eben Dodge, Danvers, Holbrook's Universal Plough No. 94, 3d premium, 10
Eustish Balch, Groveland, gratuity, 5
Frank C. Phelps, Andoxer, " 5
Walter Cummings, N. Andover, " 5

AGRICULTURAL IMPLEMENTS.

Whittemore, Belcher & Co., Boston, best collection of Implements, special premium, 25
Whittemore, Belcher & Co., Boston, Wood's Improved Mowing Machine, 1st premium, 10
Sam'l A. Merrill, Danvers, Market Wagon, 1st premium, 10
John S. Preston, Danvers, Raymond's Horse Pitchfork, 1st premium, 10
Chas. Perley, Boxford, Bay State Horse Rake, 1st prem., 5
Amos Poor, Jr., W. Newbury, Share's Horse Hoe, 1st " 5
S. A. Merrill, agent for Ames Plow Co., Garfield's Hay Tedder, gratuity, 10
E. E. Lummus, Boston, one Horse Kniffen Mower, gratuity, 5
Nathan Page, Jr., Danvers, Portable Pump, " 5
George E. Herrick, Lynnfield, Seed Sower, " 3

CARRIAGES.

Alvah Whittier, Haverhill,	1 Buggy,	gratuity,	3
" " "	Carriage,	"	4
" " "	3 Sleighs,	"	3

BUTTER.

Hannah Lambert, Rowley,	1st premium,	12
Farnham Stiles, Middleton,	2d "	10
Sarah L. Ridgway, W. Newbury,	3d "	8
Mrs. Nath'l Carlton, Bradford,	4th "	

Burr's Field and Garden Vegetables.

FARMS.

Richard Webster, Haverhill, gratuity,	30

IMPROVING WASTE LANDS.

Richard Webster, Haverhill, premium,	15

GRAIN CROPS.

Oliver P. Killam, Boxford, corn crop, premium,	10
Eugene W. Day, Bradford, oat crop, "	8

FOREST TREES.

E. G. Kelley, Newburyport, premium,	20

REPORTS OF COMMITTEES.

Allen W. Dodge, Hamilton,	1st premium,	8
Benjamin P. Ware, Marblehead,	2d "	6
Joseph S. Howe, Methuen,	3d "	4

Awarded by Committee on Poultry, 1 vol. "Strong on the Grape" and				15.00
Awarded by Committee on Vegetables, 3 copies "Garden Vegetables" and				58.50
Awarded by Committee on Fruits, 2 copies "Burr's Garden Vegetables," 1 do "Strong on the Grape" and				138.00
Awarded by Committee on Flowers,				46.00
"	"	"	Articles from Leather,	30.00
"	"	"	Counterpanes, Rugs, &c.,	35.50
"	"	"	Fancy Articles, 2 copies "Art Recreations" and	50.50
"	"	"	General Merchandize,	24.00
"	"	"	Bread, &c.,	20.00
		Total,		$1,111.50

RECAPITULATION,

FARMS, &C.

Amount awarded to		Farms,	$30.00	
"	"	Improving Waste Lands,	15.00	
"	"	Ploughing,	156.00	
"	"	Farm Implements, &c.,	98.00	
				$299.00

FARM STOCK.

Amount awarded to		Fat Cattle,	$23.00	
"	"	Bulls,	15.00	
"	"	Milch Cows,	40.00	
"	"	Heifers,	29.00	
"	"	Calves,	6.00	
"	"	Working Oxen and Steers,	30.00	
"	"	Steers,	12.00	
"	"	Stallions,	10.00	
"	"	Breeding Mares,	33.00	
"	"	Family Horses,	18.00	
"	"	Farm and Draft Horses,	18.00	
"	"	Colts,	40.00	
"	"	Swine,	21.00	
"	"	Sheep,	14.00	
"	"	Poultry,	15.00	
				$324.00

FARM PRODUCE.

Amount awarded to		Corn Crop,	$10.00	
"	"	Oat Crop,	8.00	
"	"	Vegetables,	58.50	
"	"	Fruits,	138.00	
"	"	Flowers,	46.00	
"	"	Butter,	30.00	
"	"	Bread, &c.,	20.00	
"	"	All other objects,	178.00	
				$488.50
		Total,		$1,111.50

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TRANSACTIONS

OF THE

Essex Agricultural Society

IN MASSACHUSETTS,

FOR THE YEAR

1868,

WITH THE

ANNUAL ADDRESS

BY

DR. GEORGE B. LORING.

PUBLISHED BY ORDER OF THE SOCIETY.

PEABODY,
PRINTED BY CHARLES D. HOWARD, SUTTON BUILDING,
1868.

ADDRESS.

Mr. President and Gentlemen of the Society:

We have met here to-day to discharge a most agreeable duty. The Essex Agricultural Society has finished the first half century of its existence; and we, to whose care it is now entrusted, desire to pay just tribute to the distinguished men who have guided its destinies thus far, and to recall their labors in the cause of agriculture, while we ourselves commence upon a new era of usefulness and prosperity. The history of our society is identified with almost every active movement for the advancement of Essex County, for the last fifty years. In the early days of its existence, the leading statesmen, and lawyers, and educators and farmers of our county, came up to its support as to a common cause, believing in agriculture as the foundation of the best social and civil organization, and inspired with that love of the land which always characterizes a brave and loyal people. Within this circle all religious and political controversies have been stilled; all social rivalries

and distinctions have been forgotten; the leading minds of almost every occupation have contributed to our deliberations; and the clergyman in his pulpit, the lawyer in the courts, the physician in his daily round, the farmer in his field, the merchant in his counting-room, the manufacturer in his mill, have all joined in the work of developing an institution, which, commencing with the most primitive modes of farming and domestic manufacture, now offers encouragement to the most ingenious and elaborate methods by which the land can be tilled, and the raw material can be wrought into fabrics of use and beauty. Beginning with the scythe, and the hand-rake, and the wooden plough, and the spinning-wheel, and the hand loom, we have advanced to the mowing machine, and the horse-rake, and the tedder, and the iron mould board of every line of grace, and the power loom; from the homespun of our fathers to the rich and beautiful products which are placed by our manufacturers and mechanics, within the reach of every industrious and thriving citizen.

The progress which Essex County has made during the life time of this society should not be forgotten; nor should the growth of that country of which it forms a part, and in which its intellectual and physical activity has had so large a share. In 1818, when the organization of this society first occurred to Timothy Pickering, the republic to whose existence he had devoted all his early powers, had hardly commenced its career of prosperity. It had just come out of an exhausting war—its second struggle for position among the nations of the earth. A narrow strip of land between the Atlantic and the Alleghanies, contained nearly all its valuable and productive industry. The great cities of the

West were unknown; the valleys and prairies were lying idle; the coal fields were unexplored; the mineral wealth of the Pacific slope was unheard of; manufactures were in their feeblest infancy; and the most vigorous commerce under the American flag was carried on by the citizens of Essex County, who poured the wealth of the great fishing grounds and of Ormus and the Ind, into the diminutive harbors of Salem and Marblehead and Newburyport. The entire revenue of this country was then less than $30,000,000 annually. Prosperous as Essex County was in that early day, paying nearly one seventh of the entire State tax, she had less than 70,000 inhabitants, had no manufacturing nor mechanical interests, had not a steam engine within her limits, had not a cotton mill, and but two woolen mills so far as I can ascertain, and depended entirely upon agriculture and commerce for her growth and prosperity.— North of the Merrimac River, in the now thriving towns of Lawrence, Methuen, Haverhill, Amesbury and Salisbury, there were then less than three thousand inhabitants; Lynn was but a village; Salem a small commercial town; a few baggage wagons transported all the merchandize in the county; and a few stage coaches all the travellers who depended upon public conveyance.

It was in this condition of affairs in the country, and in this county, that "a meeting of farmers and others, inhabitants of the county of Essex," was held at Cyrus Cumming's tavern in Topsfield, on Monday the sixteenth of February, in the year of our Lord, one thousand eight hundred and eighteen, for the purpose of forming an Agricultural Society for the county of Essex." Ichabod Tucker, Esq., of Salem, was chosen "moderator" of the meeting; David Cummings, Esq., of Salem, secretary;

and these two gentlemen, both lawyers as well as land holders, together with Paul Kent (farmer), John Adams (farmer), and Elish Mack (lawyer), were appointed a committee to report a plan of organization for the society. This was done at once, and Timothy Pickering was chosen President. The first vice presidents were William Bartlett of Newburyport (merchant), Thomas Kittredge of Andover (physician), John Heard of Ipswich (merchant) and Ichabod Tucker of Salem (lawyer), the first corresponding secretary was Leverett Salstonstall of Salem (lawyer), and the first treasurer was Nehemiah Cleveland of Topsfield (physician). I mention the occupation of these first officers of the society to show how largely the professional men of that day were interested in farming, and what a prominent part they took in the agricultural investigations of the time.

It seems to me proper that we should here pay a just tribute to the most conspicuous of those officers of this society, who, by their distinguished public service have recorded their names in the history of our country.

Foremost among these in point of time and of illustrious public service, stands Timothy Pickering. His patriotic career is known to you all. Commencing with his gallant resistance to British aggression at the North Bridge, in his own town of Salem, a successful armed resistance made two months before the stand at Concord, he served his country through the war of the Revolution in military life, and through the administrations of Washington and Adams in civil service. Bold, honest and uncompromising, he represented all that stern and defiant purpose which characterized the founders of our government. No personal considerations ever controlled his public action. Regardless at all times of

popular clamor, perhaps too defiant of the revolutionary thought of his time, he pursued his stern and steady way through life as a statesman, and at last sought repose as an intelligent, practical farmer on his native soil. It is for others to record his important service as a public servant during the most trying days of our republic; but it is for us to remember that he was one of the pioneer farmers of this county; that he was one of the most accurate of our early agricultural investigators; and that during the ten years of his Presidency he filled the records of this Society with his sound practical observations and his wise inferences. It was said of him at his death—"How much the Society is indebted to his exertions is well known to all acquainted with its operations. His high reputation, his knowledge of agriculture and zeal for its advancement, combined with a readiness and happy talent in communicating information, either orally or in writing, enabled him to render probably greater services than would have been in the power of any other individual." "It may be mentioned as an instance of his zeal for the Society, that but a few weeks before his decease he wrote the memorial, presented on their behalf to the Legislature, for a continuance of the grant to the Agricultural Societies of this State." His Presidency extended from 1818 to 1828, and was the last public office held by him. The memorial presented by this Society to the family of Colonel Pickering, after his decease, was a tribute of respect and regard alike worthy of himself and of those whom he had so long and so faithfully served. And his farm at Wenham, where he applied those principles of agriculture which he so carefully investigated, now bearing the marks of his industry, reminds us ever of his devotion to the

cause, and of the peaceful years which closed his long and useful life.

Passing from the distinguished founder of our Society, along the line of worthy Presidents, Howes and Mosely and Duncan and Kittredge, I come to the name of one whom many of us remember as the genial gentleman, the fervid orator, the honest statesman, the pacific lawyer. The sixth President, Leverett Saltonstall, was one of the most admirable, and stands nearest in our history to the first and greatest. "Pickering and Saltonstall"—said Mr. Daniel P. King in his eulogy of the departed statesman—"worthy names, worthily associated; no encomium of ours can add one green leaf to their ever fresh chaplets; their deeds, their talents and their virtues, have secured for them an enduring fame." And he adds—"Descended from a Puritan family, Mr. Saltonstall made an honored name more honorable; of New England stock, he was worthy to represent the stern virtues of New England; they were his pride and his only boast. Truth, honor, and virtue, he worshiped always, not because of the sure and adequate reward which they pay, nor because it is fashionable occasionally to make a pilgrimage to their altars, but because for their own sakes, he loved truth, and honor, and virtue. The beautiful language applied by President Kirkland to Fisher Ames, is no less true and beautiful when applied to Mr. Saltonstall: 'Happily he did not need the smart of guilt to make him virtuous, nor the regret of folly to make him wise.' Liberty, religion and holiness he loved, and his reverence for God was habitual and controlling."

Mr. Saltonstall won high honors in the State and in the nation; and death alone, which laid its icy hand on

him before he had reached old age, prevented his attaining still higher position. He was President of the Society from 1842 to 1845. Of those who succeeded him in office, three have passed away—Newell, Adams and Fay—all eminent in agriculture, and all recipients of heartfelt eulogy from their associates here, after they had left their fields of labor.

Of the Presidents of the Society there are now living:—

James H. Duncan, President from 1836 to 1839.

John W. Proctor, President from 1845 to 1852.

Allen W. Dodge, President from 1861 to 1863.

Joseph How, President from 1863 to 1865.

William Sutton, President, chosen in 1865.

Stepping out of the list of Presidents, I find one name among our Secretaries, whose fortunate public career, cut off as it was, by premature death, made him peculiarly conspicuous. It is hardly necessary that I should say that I refer to Daniel P. King. Mr. King possessed that rare combination of faculties which secures for its possessor the reputation of being specially favored of fortune. Passing most of his life on his secluded farm, he was a careful observer of public affairs; and when brought into the work of a servant of the people, his prudence, good judgment and sound information, gave him peculiar advantages over the more ambitious and restless. I think one of the most eloquent and appropriate tributes ever paid by one public man to another, was that pronounced by Caleb Cushing, in his allusion to the death of Mr. King, at the annual meeting of this Society in 1850, when he says of him:—"He owed to the accidents of birth and circumstances but this—that he was enabled to pass into the public

service without going through that apprenticeship in active life, or training in the learned professions, which, though it sharpen the faculties and enlarge the sphere of knowledge, yet has a tendency to leave the heart hardened in the conflict of human passions and interests, and the mind sophisticated by the habit of seeking for arguments to maintain an assumed opinion or side, in the stead of the unprejudiced exploration of the depths of supreme and eternal truth. In this he was favored by fortune; the rest was all his own—opportunities of education and mental formation faithfully improved, scholarly accomplishments, a graceful and ready eloquence, courteous bearing, candor of judgment, a spirit manly and generous, firmness of tenet softened by moderation of temperament, justness of principle, philanthropy in sentiment and practice, not in loud profession, religion of the heart as well as of the head and of the outward life, equableness of general worth, constancy and uprightness in the performance of all his duties, whether to himself, his country, or his God."

Mr. King was Secretary of the Society from 1842 to 1844, and was one of the Vice Presidents from 1848 to 1850, the year of his death.

The Secretaries of the Society have been—

David Cummins, 1818.

Frederick Howes, 1819.

John W. Proctor, 1820—1842.

Daniel P. King, 1842—1844.

Allen W. Dodge, 1844—1861.

Charles P. Preston, 1861.

Of these, David Cummins, Frederick Howes and Daniel P. King are deceased. I am happy in this opportunity to pay a just tribute to the long and valuable

service of Mr. Proctor, both as Secretary and President. And I know you will join me in expressions of sympathy for those infirmities which have visited his old age and render his enjoyment of this day, so rich in memories to him, impossible.

The Treasurers of the Society have discharged their duty well from the beginning, and the invested funds have constantly increased, under their careful and prudent management. They have been—

Ichabod Tucker, 1818.
Daniel A. White, 1819—1823.
Benj. R. Nichols, 1823—1825.
Benj. Merrill, 1825—1828.
Andrew Nichols, 1828—1840.
Wm. Sutton, 1840—1866.
Edw. H. Payson, 1866.

I have selected these names as those to whom the highest honors of the Society have been paid, while they have achieved distinction also in larger fields. But when I remind you that among those trustees who have passed away from earth I find the names of Joseph Story, B. W. Crowninshield, Hobart Clark, Andrew Nichols, Bailey Bartlett, Samuel Putnam, Benjamin T. Reed, Temple Cutler, Daniel Putnam, Jesse Putnam, Stephen Abbott, Stephen Barker, Wm. Johnson, Dean Robinson, R. A. Merriam, Jeremiah Colman, Henry Colman, Erastus Wade, Francis Peabody, Hector Coffin and Josiah Lovett, you will realize the deep interest which has been felt in your Society by the prominent men of the county from its earliest history.

The only person living of the original subscribers to the Society, in this neighborhood, is Major David Emery, of Newburyport, now 82 years old. He has pre-

served his receipt for the payment of his membership fee, as follows:

Received payment by the hands of Robert Dodge, the amount of three dollars, for the Essex Agricultural Society, for David Emory.

ICHABOD TUCKER, Treasurer.

May 6th, 1818.

Major Emery has enjoyed the respect of his townsmen through a long life, and amidst the infirmities of old age retains his interest in all those institutions which operate for the benefit of the community.

In another part of the county, there still resides, blessed with longer life than often falls to the lot of man, Hobart Clark, one of our first trustees. As a lawyer, and an active member of the community, he will long be remembered by all who appreciate devoted service to the welfare of society. As a pioneer in the railroad enterprises of the State, he took the lead, and is entitled to the respect and gratitude of a prosperous people.

When you consider the character of those who organized this association, you will not be surprised to learn that the preparation of addresses and essays upon agricultural subjects formed an important, and for some years the only duty in which its members were interested. Colonel Pickering began, continued and ended his connection with the Society by constant and diligent labor with his pen. His example has been well followed, and while our volumes have been filled with essays by practical farmers, the annual addresses, invariably delivered by a citizen of the county, form an interesting and useful part of our agricultural literature.

The first address was delivered by TIMOTHY PICKERING, May 5, 1818, upon "Manure; Domestic Animals, or the

live stock of a farm; Green Food, comprehending carrots, the great beet, or mangel wurtzel, the Swedish turnip, and Indian corn plants while abounding in sweet juices; Ripened Indian Corn and Wheat"—a large field to be tilled, it seems to me, in one day. He says: "My own practice, since, has been conformed to this conclusion: diligently ploughing in all manure as soon as spread, even so far as to spread in the morning no more than could be ploughed in before the hour of dining, and while the cattle were eating to spread only so much more as they could plough in by night." "I am induced to think the spreading of dung on grass land the most wasteful way in which it can be used." Of cattle he says: "I would inquire whether giving rewards for the *biggest* and the *fattest* is the best method of obtaining the *most valuable* breeds." "In fattening cattle and sheep there is a point to be attained at which their flesh will be of the best quality and most valuable to the consumer. Is not all beyond this a waste of time and expense in their keeping?" He says in the same address that Swedish turnips should be sowed early in May; and that no green food "will afford butter of equal excellence" with that produced by green corn fodder—two points in which farmers of this day would differ from him.

Again, on February 21, 1820, Col. Pickering addressed the Society, in accordance with a vote of the trustees. He discussed deep-ploughing and manuring, root crops, Indian corn and winter wheat, live stock and orchards—giving his views on these subjects with wisdom and practical good sense.

Andrew Nichols was the next orator. He delivered the address at Topsfield, October 5, 1820, in which he

urged the farmers who listened to him to "cultivate no more land than can be thoroughly ploughed, well manured at once, and kept free from weeds." "Never keep land many years under the same crops." "Never lay land into grass except it be well prepared and in very rich condition."

October 17, 1821. Rev. Abiel Abbott, one of the soundest thinkers of his day, and one of the most careful scholars and patrons of letters, stepped down from the pulpit, and in an address delivered at the annual exhibition at Danvers, declared that "Every attentive farmer has doubtless observed that the best manure is taken from under cover, from his sheep or cattle shed, from his barn cellar. This should be an inducement to make manure, as much as possible, under cover. Economy should induce us to make cellars under our stables." He said furthermore, "Every farmer perceives a great difference in the breed of cattle, sheep or swine; that a poor ox, cow, sheep or hog is not so easily kept, nor so profitable as a good one."

October 2, 1822. Rev. Peter Eaton, another of the strong-minded and strong-bodied clergymen of that day, delivered an address at Topsfield, in which he set forth that it is a maxim in husbandry, that no scheme of management is of advantage to the community, which will not give a profit; and that is the best which will afford the greatest profit with the least labor and expense."

The year following, October 6, 1823, it fell to the lot of Hon. Frederick Howes to address the Society; and he did it well, for he declared that "an essential requisite of good husbandry is, that the soil should be kept

free from weeds." And no one disputed it. He also urged the cultivation of root crops.

Reports of committees for 1824 were published in the N. E. Farmer. In 1825 no address seems to have been delivered. In 1826 and 1827 the reports were published in the N. E. Farmer.

On September 25, 1829, Col. PICKERING was again called on to address the Society, the annual address having been omitted since 1823. In this, his last appearance as a teacher of agriculture, he spoke of ploughs, and said with much truth: "It is not so much the *weight* as the *shape* of a plough which makes it of easier or harder draft; and this depends chiefly on the mould board." He also urged keeping manure "under cover." He says: "Many years ago I became satisfied that the hilling of Indian corn was at least useless; I was rather inclined to think it injurious."

The orator for 1830 was Hon. JAMES H. DUNCAN, who is still one of the active and useful members of the Society. He announced with justice that "there is the same and equal occasion for discernment, good judgment and intelligence in the business of husbandry as in the other employments of life." He favored small farms, and systematic husbandry; urged careful education in agriculture; and recommended "good tools."

Rev. HENRY COLMAN delivered the annual address at Andover, Sept. 29, 1831. This was one of Mr. Colman's earliest efforts in that cause to which he devoted so usefully the latter years of his life. In this address he stated that "Ploughing is too deep when it buries all the richer parts of the soil, and brings to the top only a cold and gravelly substance, unless you have manure in such abundance that you can create a new vegetable surface."

He says: "Late ploughing in the spring is preferable to early. Quotes from Curwen that: "By making use of dung in its freshest state, the farmer may extend his cropping to one-third more land with the same quantity of manure."

Rev. Gardner B. Perry spoke at Newbury, at the exhibition, Sept. 27, 1832. He approved of the Society, as having a tendency to remove some of the hindrances to agricultural improvement—such as an "unsettled state of mind,"—an "impression that farming is not a genteel occupation"—and an idea that "learning is of little advantage in the business of a farmer's life."

Dr. Jeremiah Spofford was the speaker at New Rowley (now Georgetown) Sept. 26, 1833. He said, with truth and emphasis: "To no class of men does this necessity of constant industry apply more forcibly than to the farmer. He turns his own wheel of fortune more emphatically than almost any other class; those great and sudden turns of fortune which sometimes raise or depress others, lie quite out of his track. With firm foothold he climbs the ascent to wealth; or with loosened energies he slides down the gradual descent to poverty."

Hon. Ebenezer Moseley ascended the rostrum at New Rowley, Sept. 25, 1834. He urged agricultural education; spoke of the advantages of Dummer Academy as an agricultural school; dwelt upon the proper time to cut timber; and recommended the cultivation of fruit."

Hon. Daniel P. King delivered the annual address at Danvers, Sept. 30, 1835. He put forth the idea that: "The great object of the farmer is to obtain the most valuable products with the least possible labor, and at the same time to keep his farm in a state of progressive im-

provement;" and he recommended "that a farmer should use his eyes as well as his hands."

Hon. Nathan W. Hazen was selected as the orator, at Danvers, Sept. 28, 1836. He spoke of the importance of agriculture, and stated in striking phrase that: "When agriculture loses the services of youth, and they desert its fields for other employments, it is as though spring should be struck from the seasons of the year, or should forget to bloom." He recommended: "the adoption of system in husbandry" as apt to induce that minute attention and close observation on which its success so much depends.

Rev. Nathaniel Gage addressed the Society at Topsfield, Sept. 27, 1837. He laid down some valuable rules of husbandry, and said: "A prominent difficulty, in advancing a general improvement in the husbandry of the great body of farmers, arises from an attachment to existing usages and a dread of innovations."

Rev. Leonard Withington spoke at the exhibition at Topsfield, Sept. 27, 1828. He advanced the idea that: "We must bring our manners and our political theory into more harmony. Our creed must sanction our practice, and our practice must be in conformity with the spirit of our creed. We must not attempt to put new wine into old bottles; else the bottles break and the wine runneth out and the bottles perish; or, in plain language, the republican spirit must be put into republican forms; and we must be content to take the system, the whole system, with all its blessings and attendant evils." Sound agricultural doctrine.

Rev. Allen Putnam was the speaker at Georgetown, Sept. 26, 1839. Said he: "I have a few words for the farmers' wives. However skillful, industrious, and pru-

dent your husbands may be, their success in money making depends as much upon you as upon them." Does any farmer doubt this?

Hon. Asahel Huntington, the orator for 1840, at what place the Transactions do not inform us, declared that: "to secure an increased and increasing production, Manure is the great and principal instrumentality. This is the beginning, the middle, and the end of thriving husbandry."

Alonzo Gray, A. M., the speaker at Georgetown, Sept. 29, 1841, proclaimed: "that in order to secure constant progress and permanent improvement in agriculture, its principles must be made a regular branch of study in an extended course of an English education.

Hon. Allen W. Dodge, at Andover, Sept. 28, 1842, encouraged the fruit-growers of this county with the declaration that: "The apples of Essex may yet be as widely celebrated as the oranges of Havana." He also stated, with much good judgment, that: "extensive cultivation of root crops is the basis of good husbandry in Great Britain, and I see no good reason why it should not be with us." He urged "the personal visitation of farms that are distinguished for good management in general, or for excellence in any specific department."

Hon. Leverett Saltonstall, speaking eloquently at Andover, Sept. 27, 1843, said in defence of agricultural societies—"no one now opposes or attempts to cast ridicule on these associations, which are spreading over our broad land, and whose good effects are seen in improved cultivation, not only in our own blessed New England, but in the States of the far West—and their light has broken in upon those less favored regions, where labor is

not held in that honorable estimation which it must enjoy, before a community can be truly prosperous."

Hon. John W. Proctor, the appointed speaker at Salem in 1844, said well: "as soon should I expect a man to be skillful in the management of a ship, who has never been upon the water; or expert in chemical experiments, who had never been in a laboratory; as to understand the necessary processes of farming, without actual personal experience in them." "Cultivate," said he, "so much land as can be well done, and no more; and leave no part of the process of cultivation slightly performed."

Rev. Edwin M. Stone delivered the address at Ipswich, Sept. 24, 1845. He said in a long and elaborate document: "It has always seemed to me a reproval to the farming interests of this country, that it should depend on foreign supplies of improved stock, when it can easily be supplied at home." Not so easily as some might suppose. He stated that: "Good pasture is as essential to the best results of the dairy, as it is to the best appearance of stock:" urged soiling milch cows; and expressed the opinion that "the product of a single acre will suffice for ten or fifteen cows, and give them their fill."

Hon. Moses Newell was the orator at Lynn, October 1st, 1846. He said: "all manures mixed with earth, for top-dressing or ploughing-in, should be composted in reference to the soils to which they are to be applied." A good idea—and one which should not be forgotten. He said, too: "A barn-cellar under the stalls is the best store-house" for manure.

Thomas E. Payson, Esq., gave the annual address at Lynn, Sept. 29, 1847. He spoke of the value of the newspaper press. "Slowly and silently, almost by stealth, without the knowledge of the man himself, this

mighty engine undermines old prejudices, and has taught the farmer that however independent he may be, he is not so much so, as that the experience of others will not profit him. Most of us have become willing to seek directions, even if they are contained in a book. We are becoming more like liberal, free-born, aspiring men."

Josiah Newhall, Esq., addressed the Society at Lynn, Sept. 28, 1848. He thought "the great stumbling block in the way of agricultural improvement has been the want of a knowledge of the vegetable economy of the structure and growth of plants. Did farmers fully realize the indispensable necessity of supplying food to plants to promote their growth, that they do to feed animals, we should immediately see the commencement of an improved husbandry.

Hon. Asa T. Newhall, the orator of the Society, September 26, 1849, at Danvers, recommended the reclamation of "wet meadows and swamps when the mud or peat is from two to ten feet in depth," rather than those "where the plough would run to or near the hard pan beneath." He spoke of the necessity of curing salt hay properly; said "the willow on low marshy land will rather improve the grass than otherwise, and afford a large quantity of wood, it being of rapid growth."

Hon. Caleb Cushing was the orator at Salem, September 26, 1850. He said: "In proportion as productive land is abundant, and easy of acquisition by all the members of the community, will society be sound on the main point, that is, the absence of either serfdom or pauperism, and of the criminal classes created by the unequal distribution of limited national wealth." True.

Rev. Milton P. Braman spoke before the Society September 25, 1851, at Salem. He dwelt on "the oppressed

condition of many who have cultivated the soil;" declared that "to ensure a more rapid improvement in agriculture, the system of tenantry must be abolished, and the cultivator must be the owner of the soil;" and that "the want of chemical knowledge" has "retarded the advancement of agriculture." He recommended the foundation of agricultural schools.

Hon. Henry K. Oliver addressed the Society September 30, 1852, at Lawrence. "Let me then commend to you books on farming," said he, "and the farming of books." "And of education, as the bringing-out of the man into all possible physical, intellectual and moral perfectness, for that is education, may your tongues and mine never cease to speak in terms of highest honor."

Hon. Joseph S. Cabot, in addressing the Society at Lawrence, September 29, 1853, said: "Agriculture, like every other science, is one of progress, and that, too, in accordance with the greater or less advancement of society." He also adds: "Whatever means may be adopted for the purpose, one rule with respect to cultivation may be safely laid down as an established axiom, and that is, that no land will produce a remunerative crop unless it contains, or is made to contain, an adequate supply of vegetable nutriment, the labor of cultivation remaining under all circumstances nearly the same." His speech was a valuable essay on fruit culture.

R. S. Fay, Esq., spoke at Lawrence, September 28, 1854. He urged the use of labor-saving machines, and a liberal supply of manure. He said also: "The establishment of regular markets or Fair days throughout the county, at the most accessible points, would be a very great advantage to a farming community like ours." He

proposed the planting of forest trees and the protection of birds.

Dr. James R. Nichols, who delivered the address at Haverhill, September 27, 1855, dwelt upon the value of agricultural chemistry. He discussed the qualities of various kinds of manures, and added: "I have said enough, I trust, to accomplish my object, which has been to show the husbandman how intimately connected is Chemistry with his vocation, how much he has learned from it, and how much it is able to teach him."

Ben. Perley Poore, Esq., delivered the address at Newburyport, October 2, 1856. It was an interesting historical sketch of the agriculture of the country from the earliest days, and an appeal for improvement. "Cherish, then," he said, "arboriculture and horticulture, each cultivator resolving to improve, and storing his mind with the scientific studies of the learned, the experience of the experimentalist, and, above all, with the results of his own practical observations."

Dr. E. G. Kelley spoke at Newburyport, October 1, 1857, stating with propriety "that the Society and its exhibition might well be called industrial." His essay on society contained many valuable hints. "By early marriage," said he, "the chances are that a greater number, in the aggregate, enter this state than otherwise would. If deferred, disappointments of various kinds may finally prevent it." And he says, moreover, "The first and great motive to be urged upon the owner of the farm house is to secure thereto the attachment of his children."

Dr. George B. Loring delivered the annual address at Danvers, Sept. 30, 1858. He spoke of the importance of agricultural societies, and of the value of practical

knowledge. He said: "The best professor of agricultural chemistry is he who comes embrowned from the compost heap, which by judicious application has forced a hundred bushels of corn from each of his well cultivated acres. The best teacher of the art of tilling the soil is he who has by long experience become acquainted with the habits of plants, from their tenderest infancy to the ripened harvest."

J. J. H. Gregory, Esq., addressed the Society at Danvers, Sept. 30, 1859. He said: "My principal object on this occasion is to draw your attention to the importance of correct observation and thorough experiment to the farmer, with reference to the elevation of his nature and the improvement of his calling."

Rev. John L. Russell was the speaker at the annual exhibition at South Danvers, September 26, 1860. Dealing with agriculture as an art, he said: "But no art can successfully be pursued without a science to aid and assist to prompt the labor and to point out the course."

Hon. Alfred A. Abbott was the orator of the Society at South Danvers, Sept. 25, 1861. He recommended strongly the careful keeping of farm accounts, and eulogized agricultural education. He said: "In the next place, and of equal, and perhaps greater importance, the young man who is to become a farmer should at once feel and realize that the occupation upon which he is entering is not a mere mechanical routine of labor; that while it is one which may require severe physical toil, it also calls for and demands the exercise of the highest intellectual faculties."

George J. L. Colby, Esq., addressed the Society at Georgetown, October 1, 1862. He spoke on "The Relations of Man to Agriculture," and said: "Man's prog-

ress in civilization has been and must be through the paths of agriculture; that comes first as the foundation of society." He said also what I suppose we are all ready to believe here, that "the majority of great minds from the beginning of time have come from rural life."

Hon. Daniel Saunders, Jr., addressed the Society at Andover, September 30, 1863. He declared: "It is a mistaken idea that for successful field labor merely physical training is required." "What is wanted by our farmers is an education that shall not only accumulate facts, but which shall enlarge the mind, develop the powers of the brain, widen and deepen the channels of information, and bring into operation those latent elements of mental perception and concentration."

Hon. Darwin E. Ware delivered the annual address at Lawrence, September 28, 1864. He stated: "But it is not enough that mechanical and manufacturing industry supply the implements, the markets, and the general conditions necessary to a self-sustaining and improving agriculture. The true principles of such an agriculture must be investigated, inculcated and diffused. This necessity has been most emphatically recognized in the liberal grants of land Congress has made for the establishment of agricultural colleges. Such a measure is of good import."

Nehemiah Cleveland, Esq., was the orator of the Society at Lawrence, September 27, 1866. He remarked: "I do not hesitate to say that these addresses constitute a valuable body of learning and counsel, specially designed, indeed, for the farmer's advantage, but broad enough to be of service to us all." Some of us will undoubtedly agree with him. He also says: "To form a system in agriculture as in anything else—to deduce and lay down

rules—we must first collect facts. But this alone is not enough. Unless the observations are of the right kind and made in the right way; unless they are exact and accurate, so conducted and so reported as to admit of proper arrangement and comparison, they will avail little, and may even lead to confused and mistaken notions."

Hon. Otis P. Lord spoke before the Society at Haverhill, September 26, 1866. He said: "It has seemed to me that now, just as we are emerging from this terrible conflict, there can be no fitter subject for an hour's consideration than the nature, object and purposes of good Government, with special reference to our own and its institutions." And so he spoke of government.

Rev. R. H. Seeley, D. D., addressed the Society at Haverhill, September 25, 1867. He said: "Let him, therefore, who has a farm in any district of New England, which equals the average for fertility and advantages of position, hold it, as the safest form in which his property can be invested, and work it with that thought and skill which are the guaranty of fair returns, remembering, meanwhile, that not the ruler of the State, nor the proudest merchant upon 'Change, is so independent as himself of the crises and changes which, whether by violence or the operation of steady laws, occur so frequently in the social and political affairs of the country." At the same time he adds: "In this connection the suggestion may be worth heeding, that the New England farmer should not expect too large profits from his farm."

A peculiar interest attaches to these addresses from the fact that they are all the efforts of citizens of Essex county, of men conversant with the wants and purposes of this locality, and familiar with the questions and ob-

jects of importance among us in their own day. And they indicate most creditable ability in those various walks of life from which their authors have been taken.

But not in addresses alone has the agricultural thought of this county been engaged for the last half century. The example set by the distinguished first president, has been followed to this day. The practical essays, more or less elaborate, of Timothy Pickering, numbering in all nearly two hundred, form a part of the most valuable literature of the Society. In this work he had many followers. The "statements," as they were called, of farmers who entered their stock and crops for premium, are highly interesting and instructive. And the reports of committees, with these "statements" and the addresses, composing nearly all there is of the early published transactions, constitute a reliable and valuable fund of information. Among these papers may be found the admirable Farm Report of Henry Colman, in 1830—the commencement of that series of papers written by him on farm stock, on corn, on exact and experimental agriculture, on swine, on the dairy, on agricultural publications, on cutting and preparing feed, on Essex county agriculture, for which the farmers of this county will always hold his name in grateful remembrance. The reports upon the mulberry tree and silk culture, commencing with Edward Mosely's paper in 1830, containing Gardiner B. Perry's long and elaborate essay on the same subject in 1831, Mr. Mosely's second essay in 1833, Mr. Perry's again in 1834, and the report of Temple Cutler in 1840, form an interesting chapter in the history of that curious attempt to introduce Italian industry upon the soil of New England. The writings upon cattle by Hectar Coffin, who in 1830 declared that

"Essex County is adapted to the breeding of cattle, but to a very limited extent;" by R. A. Merriam on the diseases of animals; by John W. Proctor treating of cattle for New England farms, and by numerous practical and sensible judges acting as committees at the exhibitions, may be consulted with advantage by all who desire information on this valuable branch of agricultural industry. Our attention is particularly attracted by the report made by John Torrey, of Newbury, with regard to the cost of keeping a cow from Feb. 5 to Sept. 28, 1831, as follows:—

Half a ton of salt hay,	2 00
45 bushels of small grain,	2 87
Stalks and suckers from 195 rods of land,	3 00
One bushel of potatoes,	20
Pasturing from Aug. 5 to Sept. 28,	1 00
Total,	$9 07

An account worth remembering in these extravagant days.

The various reports on Agricultural Implements are peculiarly suggestive. In 1831—Moses Newell found but three entries in this class, and speaks of the revolving horse rake as just introduced from Pennsylvania. In 1835, three entries were again made, according to the committee, who reported upon a straw-cutter, a harrow, and two carriages. In 1846, a careful report was made upon four entries:—one cultivator by David Baker, of Ipswich, two bee-hives by W. H. Brickett, of Haverhill, and a harness to prevent cows sucking themselves, by James Porter, of Lynn. And it was not until 1848, that reports were made on "large lots" of implements; Parker and White presenting a considerable collection

that year, remarkable as the committee say, only for "superior finish." In 1855, we find the first elaborate report on mowing machines, the result of a careful trial made that year. In 1831, Jeremiah Spofford writes well on the subject of Irrigation. Gardner B. Perry treats at that early day on Insects injurious to vegetation; and Asa T. Newhall discourses on reclaimed meadows; Andrew Nichols first appears in 1835, writing on Fruits and Flowers; he appears again in 1840, treating of the Science of Agriculture; and again in 1842 in a valuable paper on experiments in manures. In 1846, Gardner B. Perry comes forward again with a report on turning in crops as manure; in 1847, in a treatise on Forest Trees; in 1851, in an essay on the introduction of new fruits. As early as 1840, John M. Ives commenced his valuable papers on Fruits and Flowers, which he continued down to 1863; and in 1842 and '43, the useful reports of John W. Proctor on the Plough, form important parts of the transactions. E. Hersey Derby writes of Line Fences in 1842. In 1843 and 1844, Fitch Poole writes his inimitable reports on Swine; and in 1851, the same witty author sums up the Poultry of the county in a way which the historic swine might envy. The first essay on Onions was written by John W. Proctor in 1849. And the same year William D. Northend wrote his treatise on Pear Trees—to which he added valuable suggestions in 1865; making with his paper on manures in 1858, three important contributions. David Choate wrote of the Cranberry in 1847; of Root Crops in 1849; of Sheep Husbandry in 1852; of Farms in 1856; of Ploughing in 1859. R. S. Fay set forth the importance of Forest Trees in 1848. Allen W. Dodge, in 1848, called the attention of the community

to the establishment of Agricultural Libraries and Agricultural Societies; and in 1850 to the rearing of the Turkey. The same year Temple Cutler discussed the improvement of wet meadows and swamp lands. In 1849, John Pickering made an elaborate report on Poultry; C. L. Flint wrote a historical sketch of Indian Corn; and Wm. R. Putnam wrote a sound practical essay upon the cultivation of that important crop.

In 1850, a useful treatise appears from C. L. Flint on top-dressing; and B. Perley Poore sets forth the importance of Farm accounts and diaries. In 1851, Henry K. Oliver writes brilliantly of Bees and Honey, and flowers; and to this he adds a glowing paper on Poultry in 1854; E. G. Kelley writes of Deep-Tilling in 1854; J. J. H. Gregory of Vegetables in 1856; S. P. Fowler of insects injurious to vegetation, the same year; Wilson Flagg of the Sources of Fertilization in 1858, and of inquiries in relation to Experimental Farming, the same year; of the Potato Disease in 1859; and a Plea for Birds in 1861. Nathan Page, Jr., gives a useful paper on Strawberry Culture in 1857—another on the Robin in 1858—and another on Cranberries in 1861. George D. Phippen wrote a pleasing paper on Flowers in 1857; and C. N. Tracy another essay on the same subject in 1860; Geo. B. Loring appears with a report on Farms in 1857; again in 1860; again in 1862; on Underdraining in 1859: an essay on Sheep in 1862; root-crops in 1863; and Farms in 1863. David Stiles, Jr., presents an admirable paper on Horse-shoeing in 1859; and Edmund Smith a treatise on Bees in 1863. In 1866, James R. Nichols teaches how to make bread; and Robert Manning teaches how to preserve fruits.

In this enumeration I have given only a part of the

intellectual labor which has been bestowed for the honor of this Society and for instruction in the Art of Agriculture. Page after page of our Transactions is filled with short reports of Committees, concise statements upon crops and cattle, and manures, and processes of cultivation, and grass, and fruit trees, containing hints and facts by which the farmer may be guided in his business. But not only for the information which it contains, is this long record of fifty years of agricultural thought, valuable and interesting—but for its significance as the product of an intelligent, inquiring and educated community. A prize animal in the stall, premium crops on the acres, indicate a skillful devotion to agriculture which all practical men respect. A thoughtful essay upon this animal or crop indicates an intellectual ambition which we all admire. It tells of schools and books, and studious hours, and diffusion of knowledge, and social respectability, and civil elevation, and all the moral advancement which attend upon popular freedom, and the institutions of an enlightened people. It tells of prosperous and progressive agriculture.

Of the practical operations of this Society, of the premiums it has awarded, the plans of improvement it has designed, there is a long and honorable record, which I should be glad to lay before you in all its details; but I must content myself with some of its most prominent features.

The encouragement of well-managed farms was one of the early objects of the Society; and I am sorry to say it is an object which has met with indifferent support from our farmers. For many successive years there have been no entries in this class; and a vast amount of information has been lost from the unwillingness of farm-

ers to submit their operations to the inspection of committees of the Society. I trust as our ambition increases and our agriculture improves, this reluctance will be wholly removed.

The farms which are recorded as having received the first premium are those of Jesse Putnam of Danvers, in 1824; Moses Newell of Newbury in 1826; Jacob Osgood of Andover in 1829; Erastus Ware (the Pickman farm) of Salem in 1830; Matthew Hooper of Danvers in 1831; Thomas Chase of West Newbury in 1832; Daniel Putnam of Danvers in 1835; Joseph How of Methuen in 1837; Christopher How of Methuen in 1845; Leaverett Bradley of Methuen in 1849; J. F. Winkley of Amesbury in 1850; W. F. Porter of Bradford in 1851; Samuel Raymond of Andover in 1858; Geo. B. Loring of Salem in 1862; and Richard Webster of Haverhill in 1867. There are many others which have received second premiums and honorable mention; and among them will occur to you the farms of Daniel P. King of Danvers, Isaac Osgood of Andover, William Thurlow of West Newbury, Joseph Kittredge of Andover, and E. Hersey Derby of Salem. I trust the chronicler of the next half century will have a longer list to record than I have found in the past.

Turn now with me to the exhibitions. The first of these meetings was held at Topsfield, Oct. 5, 1820. The amount of money offered for premiums was $182.00. There were four classes: 1st. Working oxen and neat live stock: 2d. Fat Oxen and Swine: 3d. Indian Corn and Potatoes: 4th. On Manures. The first yoke of oxen which had the honor of taking the first premium in the county, belonged to Samuel Wheeler of Newburyport. The first prize bull belonged to Asa Andrews of

Ipswich, and he received the premium as a "dark brindle bull."

The first cow, taking a first premium in the county, belonged to Jacob B. Winchester of Salem. The best bull calf of that day was owned by Jonathan Berry of Middleton; the best heifer calf by Simon Smith of Saugus. There were no fat oxen on exhibition.

The best boar of the day belonged to George Adams of Newbury; the best sow to Elias Putnam of Danvers; and the best litter of pigs to Elias Putnam.

Tristram Little of Newbury, took the first premium on a Corn crop; having raised 103 1-2 bushels on one acre of ground, and John Dwinell of Salem took the first premium on Potatoes; having raised 398 1-2 bushels to the acre.

Two communications on Manures were received—one from Benjamin T. Reed of Marblehead, and one from Asa Andrews which were published with the "thanks" of the trustees.

Joshua Lovett of Beverly received the first premium on the Dairy, having made 502 lbs. of butter and 750 lbs. of cheese from five cows, between the first day of May and the last day of November; and the premium was awarded, as the committee say, "inasmuch as the object of this society is to encourage judicious efforts in agricultural improvements"—there being but this one entry.

The first premium for ploughing was awarded to Timothy Pickering, on account of the superior performance and superior utility of his plough; and the second premium was given to Gorham Parsons, of Byfield. Col. Pickering's plough was made by Henry Borden at Utica, New York.

In 1821, the premium list consisted of offers for management of a farm—green crops for cows, Indian corn and other crops, sumac, the dairy, cider, live stock and forest trees.

Premiums for domestic manufactures were first offered in 1822, and the women of the country were enlisted in the enterprise.

It was not until 1832 that premiums were offered for horses, and as follows:

For the best horse raised in the county, not less than three nor more than five years old,	$20 00
For the second best,	15 00
For the third best,	10 00

In their report the committee say—"they regard the improvements in the breed of horses as an object of utility and importance; * * * and their value and beauty should excite more attention than has hitherto been given to the rearing of them in this county." There were many entries; and the first premium ever given to a horse by this Society, was bestowed on the Iron Gray Colt, three years old, of John O. W. Brown, of Newbury.

In striking contrast with the simplicity and necessary smallness of the early premiums offered, stands the liberality of the last. In 1857, the society paid $1,111.50 in premiums as follows:

Farms, etc.,	$299 00
Farm stock	324 00
Farm produce,	488 50

The manner of conducting the exhibitions has not changed since the first show was held at Topsfield.

The introduction of improved breeds of cattle in the county, by members of the Society, has been carried on

with liberality and energy. E. Hersey Derby of Salem, and Gorham Parsons of Byfield, were among the early importers of what were called Durhams in their day; the Alderney was introduced by Col. Pickering, in 1825, and in later years by C. G. Loring, R. S. Fay, R. S. Rogers and others. Ayrshires were imported in 1846, by Wm. S. Marland of Andover, and Chas. A. Stetson of Swampscott, and by Geo. B. Loring in 1858. An Ayrshire bull was consigned to Moses Newell of Newbury by the Massachusetts Society in 1857, and Dutch cattle were introduced by Wm. A. Russell of Lawrence, in 1865. The improvement of stock in the county is now evident, and the "dark brindle bull," which took the first premium in 1820, would stand a small chance in these days, especially under the Society's offer for the "best full-blood bull."

I have no doubt, and you have none, that all this effort of the Society, which I have recited to you as much in detail as time will allow, has promoted the cause of agriculture among us, and has encouraged us to overcome those difficulties which arise from a hard soil and climate; and yet it is interesting and instructive to look back and see what crops our fathers raised, when this Society was yet in its infancy. I have already spoken of Tristram Little's corn crop of 103 1-2 bushels to the acre, and now let me give you a statement made in 1829, of the crops which had then been raised at different times in different parts of this county:—

Of Wheat—24 bushels and 26 bushels to the acre.

Of Indian Corn—70 bushels; 72 bushels; 77 1-2 bushels; 90 1-2 bushels; 93 3-4 bushels; 105 bushels and 6 quarts; 110 bushels; 113 1-2 bushels; 115 bushels; 117 1-4 bushels.

Of Barley—50 bushels; 51 1-2 bushels; 52 bushels and 18 quarts.

Of Potatoes—518 1-2 bushels.

Of Carrots—849 bushels; 864 bushels; and 878 bushels at 56 pounds to the bushel; and 900 bushels.

Of Mangel Wurtzel—924 bushels; and 1034 bushels.

Of Ruta Baga—688 bushels.

Of Beets—783 bushels.

Of English Turnips—636 bushels; 687 bushels; 672 bushels; 751 bushels; 814 bushels.

Of Onions—651 bushels.

"We know of a lot of six acres from which thirty tons of hay, accurately weighed, were gathered in one season; and another field of about forty acres, from which, according to the statement of respectable and disinterested individuals, the yearly crops have averaged more than one hundred and twenty tons, or three tons to the acre. We can point to a small dairy establishment, the produce of which, when all circumstances are considered, is probably not surpassed in the State, when some of our native cows, with no extra feed whatever, have averaged a yield of 100 pounds each of butter in a season; and another when with high feeding five cows have produced 208 pounds in a season to a cow." This statement was, I think, drawn up by Col. Pickering.

We shall not find it easy, gentlemen, to exceed such crops as these. If we, as farmers, win for ourselves as honorable a record, we shall do well. But we can remember with satisfaction that in our day we have added to the business of general farming which produced the extraordinary crops above quoted, the careful and profitable culture of the crops then but little known. Since that day, the great business of root crops has been made

by us a most important source of revenue. The onion has been brought to a greater degree of perfection. The cabbage crop has been made very profitable. All market gardening has been largely developed. Fruits of every description, for which in 1829 no premiums were offered by the Society, have become a most interesting and useful branch of agricultural business; and the pear, the apple, and the grape have been vastly improved by the intelligence and skill of our cultivators. The condition of our farm buildings has vastly improved. Our farm houses are constructed with more economy and taste; our barns are more convenient; and a barn-cellar as a receptacle for manure has become the rule instead of the exception. Well ordered estates, which were then rare, are now numerous. In and around our large cities, the prosperous merchants and manufacturers have taken pride in beautifying their grounds according to the best rules of landscape gardening; and our beautiful sea-coast is adorned by the hand of man, to a degree hardly surpassed in any other region of the old world or the new.

And while this narrow spot marked out for us as Essex County has grown in years, how has she increased in wealth and population, and in all the memories and deeds which make a people great. We contemplate her growth with pride, from the day when fifty years ago Timothy Pickering called a few enterprising farmers about him to consult upon what was then the great business of our people, down to this hour, when her teeming and busy population hardly find rest from their incessant toil. Within the life-time of this Society Lawrence and Lynn and Newburyport and Salem have sprung into existence as cities; Haverhill and Glouces-

ter and Marblehead and Amesbury, and Peabody and Danvers, and Andover and Georgetown, have become large towns—some of them have been born. The products of our industry have reached the fabulous sum of nearly $82,000,000 annually; schools have multiplied in greater ratio than the increase of population; libraries and institutions of learning and religion have grown up on every hand. The early benefactions which made the name of Phillips and Bartlett illustrious among us, have been eclipsed by the larger bounties which Peabody and Heard have bestowed on their native county. And while the founders of this Society could look back over a refulgent history of statesmanship and scholarship and patriotic valor, recalling the memory of their own sons who fell in the early days of the revolution—the gallant deeds performed by the men of Essex on land and sea in the subsequent war—the courage and wisdom of their own Pickering, the friend of Washington, the incorruptible Roman of the young republic—the comprehensive power of Parsons, the statesman and jurist—the sagacious merchants who at that time had explored unknown seas, and given the ports of Essex county a name throughout the world—what an abounding treasure of greatness has accumulated for us of this later day. In letters and law and public service we point now to Prescott, and Hawthorne, and Whittier, and Story, and Cushing, and Rantoul, born and nurtured on our own soil. The part, too, which Essex County performed in the patriotic services of our first heroic period has not been forgotten by her sons of our day. The lesson taught by Pickering at North Bridge, and by the men of Danvers who marched to the fore front for the freedom of their country, is fresh in our memory, and guides us still.

When the Union was threatened, and the Flag was insulted, the sons of Essex were among the first to enter Baltimore, the first to enter Richmond—and the last to leave. They fell on almost every battle-field of the war. They were found among the horrors of Port Hudson, at the weary work at Vicksburg, fighting for freedom at Gettysburg, toiling with Grant through the gloom of the Wilderness, holding New Orleans under loyal sway with Butler, passing along the great march with Sherman, manning the decks of our navy on every sea. What a half century of greatness the Almighty Father has bestowed upon us! May we who are here never forget our obligations—and may those who come after us be true to their great inheritance.

In concluding this address, gentlemen, I desire to express my grateful recognition of the honor you have conferred upon me, by selecting me for a second time to discharge this duty—an honor bestowed by this Society upon but one other—and he the distinguished first President. I congratulate you upon your career thus far,—upon the wisdom and good judgment which have always guided your counsels—upon the fraternal regard which has always existed among your members—and upon the devotion of your present presiding officer in whose hands the first half century of the Society is brought to a bright and prosperous termination. I trust your career will still be successful—and that among the most useful of the institutions which we transmit to those who come after us, will be the Essex Agricultural Society, supported by the practical intelligence of the county, and surrounded by all the delightful associations which cheer alike the young and the old, in a cultivated and happy rural life.

REPORTS, &c.,

The 48th Cattle Show and Exhibition was held at Newburyport, Tuesday and Wednesday, September 29th and 30th, 1868.

FAT CATTLE.

The Committee on Fat Cattle have attended to their duty and submit the following report:—

There were four pairs of cattle upon the ground and only two entries. After an examination of the cattle we were unanimous in awarding

To Charles Adams, of Newbury, for his right ox, the first premium of $10.

To J. S. Reynolds, of North Andover, for his right ox, the second premium of $8.

To Charles Adams, of Newbury, for his left ox, the third premium of $5.

Committee—Geo. H. Green, James O. Cheever, Luther Allen.

BULLS.

The Committee on Bulls have attended to the duty assigned them, and beg leave to submit the following report :—

They award to A. B. Fellows, of Ipswich, for his Jersey bull, the first premium of $10.

To Moses Colman, of Byfield, for his Ayrshire bull, the first premium of $10.

To Ben. Perley Poore, of West Newbury, for his Short-horn bull, the first premium of $10.

To Asa T. Newhall, of Newburyport, for his Ayrshire, the second premium of $5.

The Committee regret that there was not another premium at their disposal in this class for C. C. Adams, of Newbury, who exhibited a very fine young bull.

They also recommend mileage to Wm. A. Russell, of North Andover, for Dutch bull, Zuider Zee, and to D. F. Appleton, of Ipswich, for his Kerry bull. Mr. Appleton has quite a herd of this little hardy race of cattle, which are very well spoken of in the vicinity where they are kept, and the Committee are of the opinion that they would do well in some localities where larger breeds would starve.

There were a number of entries of grade bulls, with which the Committee have nothing to do under the rules, but they desire to say that the four years old bull entered by Paul T. Winkley, and the two years old bull entered by David H. Cook, of Newburyport, were both superior animals.

The Jersey bull, Abraham, exhibited by Mr. Dane, of Hamilton, we did not find on our book, but we find that he is on every other book that is of importance to him or his posterity. He is a noble specimen of his race. Mr. Dane is going pretty largely into the Jersey family, and we think he has displayed excellent judgment in securing the services of Abraham as the patriarch.

Committee—J. Longfellow, Oliver Porter, W. B. Morgan, A. W. Smith, George Dane.

MILCH COWS.

The Committee on Milch Cows report that there was but one entry for premium, with a statement,—that of Paul T. Winkley, of Newburyport, to whom your Committee award the third premium of $5 for his grade cow, "Daisy."

The Committee noticed a very good Kerry cow belonging to D. Fuller Appleton, of Ipswich. We regret that Mr. Appleton had not entered her for premium, as he undoubtedly could have given a good report of her milking capacity.

This breed seems to be adapted to the poorer portions of New England, being small, compact, and capable of getting a living where the large breeds could never thrive; and we think the Kerry, or perhaps a grade, might be a valuable addition to the stock of New England.

The Committee regret that there was but one competitor for the premium offered.

There are valuable animals in the County, of all the different breeds, and it is not uncommon to hear of twenty quarts of milk per day in the height of feed, and of ten quarts per day for the three hundred and sixty-five days,—and of large amounts of butter made from one cow. How is it that we have so meagre a show in this department? Are gentlemen unwilling to certify to the amount their cows may give?—Without facts, it would be impossible for the Committee to decide, and we think the Society has wisely determined that no premium should be given without a statement setting forth the amount of milk given during the first ten days of June and the first ten days of September, etc., etc. This not only gives some data to the Committee whereby they may determine the merits of the different animals, but, what is of more importance, it gives to the farmer and the public a knowledge of what a good animal, well cared for, can produce in milk; and with this knowledge, every man who has a milch cow or a herd will compare the products of his own with those which are exhibited, and if there is a disparity, he will inquire as to the

cause; and we suppose that it is among the great objects of the Society, first, to obtain the facts by exhibition and statement and then to elicit inquiry and comparison.

We have heard it said that we cannot expect a man to bring his stock to the fair, on account of the trouble and expense that he must necessarily incur, for so small a return in premium, even if he should be so fortunate as to get one. In answer to this we may remark that every Agricultural Society is a joint stock concern, in which every man who is a farmer or a friend to agriculture, is a partner, or ought to be, and should be willing to do something for the company.

The Society was formed to promote the interests of the farmers, and that has been its object and aim from its foundation to the present time. It has no offices of emolument, and those who serve take the honor and the good that they may do, for their pay, und unless the farmers of Essex County are animated by this spirit and by a genuine desire to excel, we must see the Essex Agricultural Society, instead of advancing, taking the retrograde course.

For the Committee—Francis Dodge.

STATEMENT OF PAUL T. WINKLEY.

I offer for premium the grade Durham and native cow, Daisy, eight years old, with calf one day old by her side. She dropped her calf Sept. 16th, 1867. She gave, the first ten days in June, 9 1-2 quarts of milk per day, and the first ten days in August 4 and 5 quarts per day, and has been dry since the 30th day of August. She gives, when first in milk, about 16 quarts per day. She is a very hearty and easily kept animal, which is of considerable importance, and should be taken into consideration as well as milking qualities. Her milk is of excellent quality, but I cannot state as to the quantity of butter she will make, as we sell our milk in the market. Her keeping has been black grass and English hay in winter, and one quart meal and two quarts shorts per day; and nothing but a good pasture in summer.

HERDS OF MILCH COWS.

The Committee on Herd of Milch Cows, have awarded Moses A. Plummer, of Newburyport, the first premium of $15 His herd was the only one offered for premium. It consisted of six cows, four of which were grade Ayrshire, one grade Jersey, one grade Durham. His statement in regard to quantitity and quality, and their appearance, showed good care and good judgment in the selection of his stock.

For the Committee —W. A. Russell.

STATEMENT OF MOSES A. PLUMMER.

In regard to the feeding and general management of the Herd of Cows entered for premium, I would say, that I feed them regularly night and morning, with the best black grass hay, giving each a peck of brewers' grain a day; and that each cow is carefully groomed every morning. This is my treatment from the time they enter the barn in the fall, until they are sent to pasture in the spring. The grain costs 20 cents a bushel at the brewery, and the hay $16 a ton at the barn. The cow Lupin dropped her calf the first of March Lillian the first of April; Beauty the 20th; and Jenny the 22d of April. The average quantity of milk from the time they dropped their calves until the first of July, was 16 quarts of milk a-piece per day; and from that time to Sept. 20th, they gave from 10 to 12 quarts a-piece per day. This falling off in milk was owing to the flies and short feed in the pasture. They were driven about 1 1-2 miles to pasture. The age of Beauty is 9; grade Ayrshire and Durham. Jenny is 8; Durham and Native. Lupin is 5; Jersey and Ayrshire. Lillian 4; Native and Jersey. Fanny dropped her calf Sept. 19th, and is 8 years old, and gives now 16 quarts of milk per day. Texalier is 5; dropped her calf Oct. 1867, and is to have another the present month (October, '68). The milk is sold at the house at 6 cents per quart in the summer, and 7 cents in the winter.

HEIFERS.

The Committee on Heifers report that a large number of very superior animals of this class were entered for premium and submitted to their inspection, viz.: thirty-five heifers, besides twenty-seven calves. Of these some were natives, many were of the different grades, and but few were of pure breeds. Among the latter was the full-blood Jersey stock, sixteen animals in all, belonging to Francis Dane, of Hamilton, who is giving attention largely to the raising of this breed, so famous for its milking qualities, and is collecting together specimens from some of the best importations.

It was gratifying to the Committee, and must be to all interested in the improvement of our Dairy stock, to witness the increased attention now given in the county to the raising of our own heifers. The price of good heifers from the droves has of late been so high, that it must pay well to select the best heifer calves dropped on our farms, and raise them to form our milking herds. The temptation to sell to the butcher veal calves, and then to buy yearlings at about the same price in the fall, is too great to be generally resisted; but it frequently happens that the calves are sold and the yearlings not bought.

From our own observation—not at the Cattle Show merely, but on farms in different parts of the County, we are of the opinion that at the present time more young stock is being raised here than for many years past. We cannot but think it is a step in the right direction. We hope many more of our enterprising farmers will follow it and that the Society will increase the number and amount of its premiums for young milking stock. We can conceive of no way in which it can more advantageously expend a portion of its income—so making our County self-sustaining in its dairy stock, and our annual shows, *cattle*-shows not in name merely, but in reality.

We award the following premiums:—

HEIFERS—THREE YEARS OLD.

Francis Dane, Hamilton, first premium, $10.

Paul T. Winkley, Newburyport, second premium, 8.
Eben Mason, " third " 5.

HEIFERS—TWO YEARS OLD.

Moses Coleman, Newbury, first premium, $8.
Daniel Plummer, Newburyport, second premium, 5.
Paul T. Winkley, " third " 3.

HEIFERS—ONE YEAR OLD.

Joseph Kittredge, North Andover, first premium, $5.
Jeremiah Coleman, Newbury, second premium, 3.

CALVES.

Asa T. Newhall, Newburyport, premium, $6.

Committee—Amos Gould, H. L. Moody, Isaac F. Knowlton, Moses A. Plummer.

WORKING OXEN AND STEERS.

The Committee on Working Oxen and Steers respectfully submit the following report:—

There were fourteen entries of working Oxen. Thirteen pairs competed for the premiums, and they all performed their work well. The Committee were unanimous in awarding the following premiums:

To Francis Dodge, of Danvers, the first premium of $12.

To F. P. Putnam, of Danvers, the second premium of $10.

To Samuel Moody, of West Newbury, the third premium of $8.

The Committee would recommend a gratuity of $6 to R. S. Bray, of Newbury.

Of working steers there were three entries, all of which competed. The Committee award as follows:

To George A. Randall, of Newbury, the first premium of $8.

To Silas Little, of Newbury, the second premium of $5.

The Committee recommend a gratuity of $3 to Romulus Jaques, of West Newbury.

Committee—S. A. Merrill, E. S. Parker, J. O. Edwards, J. P. Goodale, I. Worcester.

STEERS.

The Committee on Steers would submit the following report:—

The whole number of Steers entered was six pairs—four pairs of two years old, and two pairs of yearlings.

The Committee report the following awards:—

To Alfred Kimball, of Bradford, for his dark red two years old Steers, the first premium of $5.

To Romulus Jaques, of West Newbury, for his two years old Steers, the second premium of $4.

To Paul T. Winkley, of Newburyport, for his yearling Steers, the first premium of $4.

There was one other pair of yearling Steers which the Committee did not think of a quality entitled to a premium.

Committee—Abel Stickney, I. F. Tappan, Andrew Dodge, David Webster, 2d, Francis R. Allen.

STALLIONS.

The Committee on Stallions would report:—

They found but two of the horses which had been entered, on the ground—the Green Mountain Morgan, entered by Ezra

P. Downing, of Amesbury, and the Abdallah Colt, three years old, entered by T. W. Quimby, of Amesbury.

Mr. Downing's horse is a good specimen of the old-fashioned, well-known, valuable and serviceable Morgan horse of Vermont. He is a strong-built, muscular, vigorous horse, of gallant, resolute action and great courage. We consider his introduction into the County fortunate for those who desire to breed good business horses.

The Committee award him the first premium in his class, $10.

Mr. Quimby's colt is a valuable animal—well-bred, free and open gaited, and of good speed. He promises to be a valuable stock horse, and the Committee award him the first premium in his class, $8.

Committee—Geo. B. Loring, Geo. M. Wonson, A. W. Mooney, C. H. Gould.

BROOD MARES.

The Committee on Brood Mares report that they found eleven entries submitted for their inspection, and after a careful examination, taking particularly into consideration the *soundness* of the animals, together with other qualities, award as follows:

To Francis Dane, of Hamilton, the first premium of $15.

To W. J. Dale, Jr., of North Andover, the second premium of $10.

To A. C. Morse, of Haverhill, the third premium of $8.

For the Committee—James B. Foster.

FAMILY HORSES.

The Committee on Family Horses, report nine entries, eight of which appeared for inspection. Among them were a very fine pair of matched bay horses, owned by Dr. E. G. Kelley, which the Committee took great pleasure in examining, but the premiums being offered for single horses, they were compelled to pass them and make the following awards:—

To Plummer & Balch, of Newburyport, for their sorrel horse, the first premium of $10.

To Eliphalet Griffin, of Newburyport, for his bay horse, the second premium of $8.

The Committee regret that more premiums were not at their disposal, as there were several other very worthy horses shown.

Committee—Benjamin P. Ware, John W. Balch, W. W. Fowler, Charles C. Blunt.

FARM AND DRAFT HORSES.

The Committee on Farm and Draft Horses report the following award of premiums:—

To Orrin Putnam, of Danvers, the first premium of $10.

To S. A. Merrill, of Danvers, the second premium of $8.

To Samuel Foster, of North Andover, the third premium of $5.

Committee—Henry Hobbs, James Flint, M. C. Andrews, Alonzo Fellows, A. H. Patch.

COLTS.

The Committee on Colts report the following premiums, viz.:—

FOUR YEARS OLD.

To Romulus Jaques, of West Newbury, the first premium of $10.

To Edward F. Knight, of Newbury, the second premium of $5.

THREE YEARS OLD.

To D. F. Appleton, of Ipswich, the first premium of $6.

To John Swinerton, of Danvers, the second premium of $4.

TWO YEARS OLD.

To Asa T. Newhall, of Newburyport, the first premium of $5.

To Daniel O. Weed, of Amesbury, the second premium of $3.

YEARLINGS.

To Elbridge Batelle, of Newburyport, the first premium of 4.

To J. N. Rolfe, of Newbury, the second premium of $3.

Committee—Eben King, William P. Plumer, Benjamin Akerman.

SWINE.

The Committee on Swine respectfully report, that they met on the morning of the first day of the show, fully impressed with the responsibilities with which the Board of Trustees had invested them, and with some difficulty discovered the scene of their coming labors. The swine, instead of having a position in line with the other animals, had been posted at the foot of "a steep place," down which the whole herd had it become possessed with unclean spirits, might have ran violently into

the waters of the neighboring pond and perished. Whether the biblical lore of those in authority prompted this out-of-the-way location, or whether fears were entertained that some irreparable damage might be inflicted by the hogs on the immaculate sward of Bartlett Mall, so tenderly cherished by some citizens of Newburyport, your committee did not discover. The hogs, however, manifested much curiosity on this or some other question of the day, by poking their noses into whatever presented itself, with an insinuating manner that would have been creditable to a newspaper reporter.

Your committee were not preceded by a band of music, neither did a mounted marshal, with badge and baton, announce their advent, to pronounce judgment upon the porcine candidates for premiums to be awarded, but as they approached the pens they were encouraged by a welcome chorus, in which the more sedate competitors grunted *basso profundo*, while the frisky youngsters indulged in *altissimo* squeals. It was indeed an imposing spectacle, and your committee felt inspired by what they saw and heard, to mete out exact justice. The four practical members set about making the awards, while to ther associate, who is more familiar with the *pen* than with the animals, was assigned the task of preparing the report. An intimation had been given that this production was, if possible, to be made spicy, to season the Society's transactions, yet on the part of the hogs there was nothing but gravity of demeanor visible, and your committee would respectfully suggest that as the jollity of a horse laugh is proverbial, the equine committee be next year charged with the comic business.

The history of the Hog,—general and local,—should not be forgotten. It has been generally believed that the original American porkers were carpet baggers, brought to this continent by the Spaniards soon after its discovery by Christopher Columbus, but modern science shows that the race existed on this continent ages before. Fossil bones, identified as those of the Hog, have been found in the deposits of the miocene age, (which was the second division of the tertiary epoch,) repos-

ing with the remains of the mastodon, the elephant, the rhinosceros, and other gigantic beasts which used to stalk over our land. Fortunate is it for us that the unwieldy forms of these last named monsters cannot now alarm us, while their porcine cotemporary remains in existence, to contribute to the nutriment of man, who only dates back to the pliocene, or most modern tertiary deposit.

The ancients honored the Hog, by sacrificing him to Ceres, the goddess of abundance, for having *taught man to plough the earth.* In Egypt he was sacrificed to Bacchus, as an intrepid beast, who in his fury ravaged vineyards, treading under foot the juicy fruit. The death of the wild boar of the mountain of Erymanthe was one of the twelve labors of Hercules, and the inspired seer who read the oracles of destiny to Æneas, foretold the hero that his wanderings would not cease until he should espy a white sow recumbent with her litter of pigs, emblem of a multiplying and civilized people. In Rome, the Hog was held in the highest estimation, and there the most particular attention was paid to the art of feeding and fattening him, called *Porculantio.* A favorite dish at the costly repasts of the wealthy Romans was a hog cooked in the Trojan style, in allusion to the famous horse of Troy, filled with combatants. The hog was killed and dressed, then filled with game and oysters, moistened with wines, and then roasted.

The hog was held in high repute among the less ancient people of Great Britain and of Europe, its flesh forming not only their common flesh-food, but also the principal dish of their best repasts. For centuries a soused boar's-head has been served up at the Christmas dinner in the refectory of Queen's college, Oxford, while the statute books of France, England and Germany yet contain laws against hog-stealing, based upon the old Salique edict—*de furtis porcorum.* The English paid especial attention to their hogs, and at the period when New England was peopled, they had reconstructed their wild boars into an uncouth breed, black and white in color, with large bones, long limbs, arched backs, low shoulders, and

long snouts, with coarse bristles on the spine and large flapping ears.

These imported Hogs, ungainly as they would now appear, were the most profitable and useful of all the animals bred by the Puritan pioneers. They arrived earlier at maturity, required less care, sought out much of their own food, and were not subject to accidents or diseases. They were also so prolific that they became troublesome, and in 1663 the potent magistrates of the colony of Massachusetts Bay declared it "lawful for any man to kill any swine that comes into his corne." This was not acceptable to the yeomen, then largely in the majority, and a convention of two delegates from each town, (the first convention which ever met on the American continent,) assembled, and called for a sight of the royal colonial charter. Examining it, they "resolved" that the right to make laws rested not with the magistrates, but with the FREEMEN, neither did they cease their exertions until they had established the law-making and money-raising power of the "General Court" in 1634. Some offending porker who had made a raid on Governor Endicott's corn-patch, or had damaged Mr. Winthrop's garden with his insinuating snout, thus became the parent of that august body which has so ungratefully adopted the cod-fish as its emblem!

The obnoxious Hog-edict of 1633 was repealed at the first session of the General Court in 1634, where it was also "agreed that every towne shall have liberty to make such orders aboute swine as they shall iudge best for themselues, and that if the swine of one towne shall come within the lymitts of another, the owners thereof shallbe lyeable to the orders of that towne where their swine soe trespasseth." The next year, (1635) the empounding of stray hogs was legalized, the General Court adopting an order drawn up by Mr. Treasurer, Mr. Dummer, Mr. Neweberry, Mr. Beecher and Robert Moulton, which read thus:—

"July 8, 1635. It is ordered, that there shalbe a pound made in every plantacion within this jurisdiccion before the

8th day of this moneth, and yt such swine as shall be found in any corne feild shalbe impounded & notice giuen to the owner thereof, if hee can be knowen, or otherwise to be made knowen at the nexte lecture, & if within three dayes after notice giuen they be not owned, it shalbe lawful for the party whoe hadd the harmes done to gett the swine prized by two of his neighbrs, & then he shall have liberty to sell the said swine, & pay himselfe duble damages, being iudged by two indifferent men. The like recompence is to be made for such swine as are owned before publique notice gyven thereof; this order to extend to all ffermes, but not to lyttle small parcells of corne of an acre or lesse, planted remote from townes and unfenced. Further, as for such swine as cannot be impounded, it shalbe lawful for the party whoe hath the harmes done to kill the said swine, and pay himselfe for harmes, & soe to returne the remainder thereof to the owner of the swine; & if any swine shall escape out of the pound, or be taken out, the owner thereof shall, notwithstanding, be lyeable to pay damages, as before mencioned, if hee can be knowen."

This law was not probably enforced, as it was enacted in October, 1636, that there should be "chosen yearely in euery towne some one discreet person, who shalbe called the hog-reeve" to enforce the laws concerning swine. There was, however, much subsequent discussion and consequent legislation in the General Court about swine, prompted by the conflicting interests of the corn-growers and the pig-owners. Indeed, the subject was the *bore* of those days, as the Hoosick Tunnel is of ours.

A century and a half later found the colony one of the United States, but there had not been much improvement in the breed of Hogs in Essex county, or elsewhere on this continent. They were, according to the most reliable accounts, a long-nosed, long-eared, long-legged and slab-sided race, as gaunt as grey-hounds, with the nose of a tapir, the appetite of a boa-constrictor, and the maw of a shark—excellent as meal chests, but miserable for filling pork-barrels.

Hogs increased and multiplied, but we have no evidence that any attempt was made to improve the breed in this country, until after the war of the Revolution. In the summer, the young pigs were generally turned into the woods to graze, or later in the fall to feast upon the products of the forest—great hogs from little acorns grew. The winter pens were small, cold structures, with adjacent yards which have since been well described by Gen. Oliver as "a stew of stercoraceous stench—a Serbonian bog of fathomless filth and miasmatic putresence."

Col. Timothy Pickering was the first Essex farmer,—so far as your committee can learn,—who systematically attempted to improve our breed of hogs. Visiting his friend Col. Ridgeley, near Philadelphia, he there saw some of the genuine Woburn breed, descended from a pair which had been sent by the Duke of Bedford, who had introduced them to President Washington, and he obtained a pair for his farm at Wenham. They were white, with more or less small black or red spots, round in the carcase, small limbed and headed, and for some years they were in great demand.

The superiority of these Woburn or Bedford hogs over the black gaunt breed generally raised, prompted a general improvement of the Essex county porkers, and some valuable crosses were obtained by the ship-captains who then sailed from Salem and Newburyport to China and to Africa. Newbury is said to have thus produced a local breed and we read in a Kennebunk paper of February 17, 1819: "Mr. David Nichols, a worthy member of the Society of Friends, has this day killed a hog aged 21 months, 13 days, half blooded, of the *Newbury Whites:* his girth six feet five inches; unusually short in proportion to his size; weighing with the rough fat 670 lbs. precisely; having gained at least one lb. per day since he was littered: he was sold for twelve and a half cents per pound."

Byfield parish, in the town of Newbury, produced in due time a breed of hogs, which was regarded as the best in the country. The progenitor was a hog, probably brought from

China, which was purchased in Newburyport from a ship's cook by a Byfield farmer, and crossed with the "Newbury Whites," and with the Mackay* and Leicester swine brought by Gorham Parsons, Esq., to his "Fatherland Farm" in Byfield. The pens of the well arranged and comfortable piggery were always creditably filled, and the food for the inmates was always excellent and well cooked. In 1826 James Ferguson, the foreman of Mr. Parsons, sold at Newburyport thirteen hogs, the weight of which was as follows, 494—424—530—406—556—454—496—336—578—370—500—400—526, and two pigs, the weight of which was 211 and 255, making an aggregate of 6,536 pounds. He only received seven cents a pound, which was then considered a high price for pork, and it is questionable whether he was remunerated for his outlay. But these unprofitable agricultural operations by "gentlemen farmers" are useful lessons to the our yeomen, and the Byfield hogs were then and are now unsurpassed in the county.

About 1840 the Suffolk breed of hogs was introduced into the county, by the purchase of imported stock, and we have since had specimens of the Middlesex, the Berkshire and the Essex breeds from England, the Neapolitans from Italy, and the Chester and the Columbia, of native production. But there has not been that care bestowed upon the improvement of our hogs that has been lavished upon our neat cattle, horses,

*Captain John Mackay commanded for some years a packet-ship which sailed between Boston and Liverpool. Having a taste for rural pursuits, as is generally the case with sea-faring men, the Captain bought a farm in Woburn, and stocked it with the best hogs which he could find on the vessels which came to Liverpool from different parts of the globe. When he at last ceased to plough the deep, and devoted himself exclusively to his farm, he gave especial attention to the combination of the several excellencies of his best hogs, especially those of the Asiatic race, and by perseverance and judgment he at last produced, (just as Robert Bakewell produced the Shorthorns,) the "Mackey" Breed. For several years Capt. Mackey's hogs took all of the premiums at the Brighton State Cattle shows, and Sanford Howard said of them in 1838, that "for aptitude to fatten, and the attainment of great size at an early age, they are unrivalled by any swine ever known in our country."

sheep and even poultry. Some of our best farmers either breed from indifferent animals, or purchase pigs from droves, and not only the number but the quality of the hogs of Essex is falling off. Our shows are not now graced by such imperial hogs as that which was once exhibited by Mr. John Alley, 3d, of Lynn, weighing some 1200 pounds, neither do we enjoy succulent young porkers at our annual repasts. Kerosene has superseded lard-oil, or it might be thought that Essex county farmers are *making light* of their hog-crop.

THE AWARDS.

Your committee, having made the above review of the history and of the present condition of the hogs in the county, decided that as "like will produce like," the pedigrees of the masculine competitors for the Society's premiums must be carefully scrutinized. While our Puritan ancestors wisely abjured a hereditary aristocracy, and the rights of primogeniture, the quadruped race is not inspired by that adherence to democratic equality which despises ancestry. Occasionally the economist may find some good pigs among the progeny of a runt, whose only recommendation is the small sum charged for his service, but in such a lottery there are many blanks to one prize.

Moses Colman's Suffolk boar, thirteen months old, with a pure pedigree, maintained the porcine reputation of Byfield. He was a symmetrical animal, with a small well set head, round body, straight back, broad loins, evidently small bones, and a healthy looking skin. Your committee were unanimous in awarding Mr. Colman the first premium of $8, and they hope that his boar, having thus been made the recipient of the highest honor to which a hog can aspire, may be useful in his day and generation, and pass the evening of

> ———"his life in peace,
> And accumulate much grease,
> Eating corn—eating corn."

Joseph Longfellow of Newbury exhibited a Columbia county boar, eleven months old, which had a well set head, long

body, round ribs, plump hams, and other indications of an aptitude to fatten. He was awarded the second premium of $5, at which, or from some other reason he was fired with jealous rage, and seceded from his pen, to make a hostile demonstration of "onpleasantness" against Mr. Colman's more fortunate patriarch. A pitched battle ensued, and it could no longer be said of this interesting department that "its ways are ways of pleasantness, and all its paths are paths of peace." Had the combatants been rams, their pugnacity might have been attributed to the horns which each had taken, but hogs are never corned during life. The phraseology of the prize-ring might be exhausted in chronicling the contest in which blood was freely shed, and it was intimated that politics had something to do with the fight. But a State constable happily appeared, proclaiming "let there be peace," and the combatants were separated, grunting defiance.

Moses S. Little of Newburyport exhibited a fond couple of fine hogs which testified to the good cheer of the Merrimac House, and were equally characterized by their fine proportions, their evident readiness to fatten, and the roseate hue of their delicate skins. To the help-meat of the pair the committee awarded the Society's first premium of $8 for the Best Breeding Sow.

Jesse Cashman of Newburyport invited the attention of the committee to a matron who needed neither hoops nor padding to give her an attractive plumptitude, while the donation of nine to the hog-population at her side commanded respect, and secured for her the second premium of $5 for "good breeding."

The premium for Weaned Pigs the committee could not conscientiously award to the only quartette exhibited, but they cannot withhold their praise of a trio of pure Chester Whites, bred by N. P. Boyer & Co., of Parkersburg, Pa., and exhibited by E. Griffin, of Newburyport.

Pearson's Bakery, of Newburyport, exhibited five noble fat hogs, which well deserved a premium, as they were living wi

nesses that Essex county can yet raise candidates for the pork barrel, the smoke-house, the spit, the sausage making machines, the frying-pan and the chowder-pot.

Honorable mention should also be made of the matronly and amiable partners of Mr. Longfellow's bellicose Boar, who testified their pacific dispositions by sternly repressing several manifestations of a disagreement between their respective offspring, who proved themselves *minors* by burrowing into each others pens to engage in juvenile rows.

Your committee vainly endeavored to ascertain what was the improvement on an "Improved Suffolk Boar," but could discover nothing remarkable about the animal unless it was an unusually long snout. This feature could but find favor with those farmers who believe with Mr. Holbrook, of Vermont, that it is sounder practice to use hogs as manufacturers of old-fashioned manure than to buy the fashionable fertilizers of the day, which too often merely stimulate the present crop, and leave the land no better than they found it. An industrious hog, like Wilkins Micawber, Esq., is always "waiting for something to turn-up" with his insinuating yet effective snout, and if supplied with the materials will speedily compost them. Peat, as a basis for hog operations, is more remunerative than when compressed into patent fuel.

The committee failed in their endeavors to obtain from the exhibitors any new information on the much discussed question as to whether it is profitable to cook food for hogs, about which there has been and is such a wide difference of opinion among the best practical farmers of Essex county. The poet Southey has asserted that—

> "The pig is a philosopher who knows
> No prejudice."

Indian-corn doubtless makes the most and best pork, but no properly educated hog objects to the orts and ends of the farm and garden, or the contents of the kitchen swill-pail. There are good reasons however for believing that much of the pork

fattened near our large cities by scavengers, distillers and butchers is indeed "unclean" and unfit for use by Gentile or Jew. Whatever wholesome food is given to hogs, the quantity should not be stinted, for "feed not breed" is a porcellian maxim. In the days when our land was cursed with slavery, Cuffee came into his cabin one cold night, almost frozen, and began to enjoy a roaring fire. Soon his wife exclaimed: "Cuffee, isn't your feet a burnin?" 'Taint my feet," was the laconic reply, "they'se massas!" This philosophical reasoning can be applied to feeding hogs. When a hog eats, he doesn't eat for himself but for his owner, turning that individual's meal or potatoes into pork.

Ben: Perley Poore—Chairman.

POULTRY.

The Committee on Poultry would submit the following report:—

They award to E. S. Tappan, of Haverhill, for the best show of Poultry, $5.

To J. Pillsbury, of Georgetown, for Black Spanish Fowls, $2.

To J. Pillsbury, of Georgetown, for Fancy Pigeons, $5.

To P. T. Winkley, Jr., of Newburyport, for coop of half-blood Brahma Hens, $2.

To P. T. Winkley, Jr., of Newburyport, for coop of red English Fowls, $1.

To T. H. Cutter, of Newburyport, for coop of Spanish Fowls, $2.

To S. A. Magoon, of Haverhill, for Silver Spangled Polands, $1.

To J. R. Chapman, of Beverly, for Silver Spangled Hamburgs, $1.

To T. E. Bartlett, of Newburyport, for coop of Ducks, $1.

Committee—H. M. Goodridge, Wm. Proudman, Ira S. Woodman.

COARSE WOOL SHEEP.

The Committee on Coarse Wool Sheep report :

They award to Romulus Jaques, of West Newbury, for his grade Cotswold Ewes, the first premium of $8.

To Joseph Kittredge, of North Andover, the second premium of $5.

To Romulus Jaques, of West Newbury, for the best lot of lambs, the premium of $3.

To Joseph Kittredge, of North Andover, for his South Down Buck, the premium of $6.

Committee—Wm. R. Putnam, Charles Corliss, Theodore Andrews, Henry Patch, Gorham Norwood.

PLOUGHING—DOUBLE TEAMS.

The Committee on Ploughing with Double Teams have attended to the duty assigned them, and report as follows :—

They award to R. T. Jaques and R. S. Bray, of Newbury, the first premium of $12.

To Joseph Goodridge, of Newbury, the second premium of $10.

To D. L. Goodrich, of Newbury, the third premium of $9.

To Edward H. Little, of Newbury, the fourth premium of $8.

For the Committee—J. P. King.

PLOUGHING—SINGLE TEAMS.

The Committee on Ploughing with Single Teams report :—

They unanimously award to R. T. Jaques's team, Hiram Young, ploughman, the first premium of $7.

To Thomas C. Ordway, of West Newbury, Washington Winslow, ploughman, the second premium of $6.

For the Committee—John Keely.

PLOUGHING WITH HORSES.

The Committee on Ploughing with Horses award to E. H. Little, of Newbury, Conical plough, No. 4, the first premium of $10.

To Orrin Putnam, of Danvers, Holbrook plough, No. 64, the second premium of $7.

To Samuel B. Hill, of North Andover, Robinson plough, the third premium of $4.

Committee—James Flint, J. A. Lunt, Wm. J. Dale, Jr., Asahel H. Patch, E. G. Berry.

PLOUGHING—SIDE HILL PLOUGH.

The Committee on Ploughing with Side Hill Plough, respectfully report as follows :—

There were but two entries made. The Committee very much regret that the number of entries was so small. They think the wood-beam swivel plough of Messrs. F. F. Holbrook & Small, superior to any now in general use.

They are unanimous in the award of the first premium of $10 to Samuel Moody, of West Newbury. Team, one yoke of oxen without driver : he used the F. F. Holbrook & Small plough, No. 6.

To Messrs. Kittredge & Foster, of North Andover, the second premium of $8. Team four oxen with driver. They used the F. F. Holbrook & Small plough, No. 9.

Committee — Alonzo B. Fellows, William Dodge, Jr., Franklin Brickett, William H. Felton, George L. Hawkes, Paul D. Patch.

BOYS' PLOUGHING.

The Committee on Boys' Ploughing report :

Hon. William Sutton, President of the Society, generously offered fifty dollars to be awarded in three premiums of $25, $15 and $10, to boys under 19 years of age, for ploughing.

Four competitors appeared on the ground. They all did well, showing they had experience in driving the oxen and holding the plough. As there were but three premiums to be awarded, and four deserving competitors, the Committee being desirous that no one should be "left out in the cold," suggested the fact to the generous donor (Gen. Sutton) who cheerfully increased his donation eight dollars, making it $58 in-

stead of $50, which your Committee would recommend be awarded as follows :—

To Albert B. Ordway, of West Newbury, 17 years old, the first premium of $25.

To Charles Fish, of Danvers, 17 years old, the second premium of $15.

To Eben Dodge, of Danvers, 18 years old, the third premium of $10

To George W. Bray, of Newbury, 16 years old, a gratuity of $8.

Ordway used Mead's conical plough, No. 5 1-2; Fish and Dodge used Holbrook's Universal plough; Bray used Hussey plough, No.15.

When so many of our young men are leaving the farms of their fathers to seek their fortune in the cities, in the work-shop, or on the fertile prairies of the West, it is pleasant to see some of them who are willing to drive the oxen, and hold the plough, and cultivate their native soil. It may be supposed the generous premiums given by Gen. Sutton, were not wholly for ploughing, but to encourage boys in the cultivation of the farm; and therefore a few remarks may not be improper on the occasion.

The cultivation of the earth was the first business of man. When man first came from the forming hand of his Maker, he was placed in the garden of Eden to dress and keep it. The next information we have, Cain and Abel were farmers. Cain was a tiller of the ground, and Abel was a keeper of sheep. The good old patriarchs were also farmers, or producers of cattle and sheep. Elisha, it is said, on a certain occasion was ploughing with twelve yoke of oxen. We are not to suppose they were all on one team, but each yoke of oxen had a plough, and they were following each other. As we are informed, there has been but little change in that country unto the present time. Dr. Thompson, who has resided many years in the land of Palestine, says in his writings entitled "The Land and the Book," that he has seen more than a doz-

en teams of one yoke of oxen, following one after another as closely as possible. He further says, their little ploughs make no proper furrows, but merely root up the ground and throw the soil on either side, so that any number of teams may follow one another, and when at the end of the field they can return along the same line, and thus back and forth, until the whole is ploughed. Now why is there such a contrast between that country and our own? Are we not indebted to the rapid progress which has been made in education and science? Great changes have taken place in the implements of husbandry within the last generation, as many of us can testify, which make farming less laborious, and we hope, more attractive.

I have alluded to the disposition of our young men to leave the farm, and engage in other business. This is right to a certain extent, as it is necessary that the different professions and different kinds of business should be carried on and sustained. In many cases, however, all the children leave the farm, and the father is left to trudge along as best he can, making the infirmities of age burdensome. Now is there not an evil here that can be remedied? If parents would cease complaining, as they sometimes do, of their hard lot, as they are pleased to call it, and be more cheerful and happy, would not home be more attractive to the children?

Make home pleasant by making it neat and comfortable. Plant the forest trees and shrubbery, sow flower seeds, which the wife and daughters in most cases will with much pleasure cultivate.

The desire of happiness is something inherent in our nature, and where can more of it be found than in a community of intelligent, industrious farmers,—all engaged in the same calling and interested in each other's welfare, controlled by a spirit of kindness and benevolence, and governed by the precepts of the Gospel?

For the Committee—Joseph How.

AGRICULTURAL IMPLEMENTS.

The Committee on Agricultural Implements award the following premiums, viz.:—

To Charles P. Preston, of Danvers, for Wood's two-horse Mower, $5.

To Samuel A. Merrill, of Danvers, for the American Hay Tedder, $5.

To Whittemore & Belcher, for the best Hay Cutter, $3.

To S. M. Ayers, of Boxford, for the best Ox Yoke, $3.

To the Fitchburg Co. for the Bay State Horse Rake, $5.

To J. S. Preston, of Danvers, for Raymond's Horse Pitchfork, $5.

To Parker, Gannett & Osgood, of Boston, for Collection of Implements, $5.

GRATUITIES.

To Parker, Gannett & Osgood, for the best Churn, $2.

To F. F. Holbrook & Small, for Harrington's Seed Sower, $2.

For the Committee—Lewis Allen.

CARRIAGES.

The Committee on Carriages report the award of the folowing gratuities:—

To George Adams, of West Amesbury, for his Buggy, $5.

To Dana Dodge & Son, of Newburyport, for their two-seated Carriage, $3.

To Wm. B. Peart, of Danvers, for his Express Wagon, $2.

Committee—T. K. Leach, Wm. H. Patch, Wm. Dodge, Jr.

DAIRY.

The Committee on Dairy examined the eleven specimens of Butter presented to them, and found quite a number of superior excellence. They award as follows :—

To A. F. Hobbs, of Wenham, the first premium of $12.

To D. G. Todd, of Rowley, the second premium of $10.

To Mrs J. Longfellow, of Byfield, the third premium of $8.

To R. S. Rogers, of Peabody, the fourth premium of $5.

CHEESE.

There were but three specimens of Cheese submitted to the Committee, and they report the following awards:

To N. W. Moody, of Newbury, the first premium of $8.

To the Byfield Factory, the second premium of $5.

The Committee were unanimous in awarding a premium on butter to Delia Foley, of Newburyport, but regretted to find that the quantity exhibited was insufficient to meet the rule of the Society.

Committee—George Foster, N. Lambert, J. A. Putnam, Thomas Hale, D. T. Morrison.

STATEMENT OF A. F. HOBBS.

This box of September butter containing 18 lbs., was obtained by the following process. First, the milk was strained into shallow tin pans to the depth of one and one half inches. After standing 12 hours each pan of milk was placed separately on the stove and slowly scalded. It was then set back into the dairy-room to remain from 24 to 36 hours, care being taken to remove the cream before the milk began to thicken. The cream was kept in a stone jar, salted and stirred daily until it was churned, which was twice a week. After the butter was churned and collected, the butter-milk was thoroughly

pressed out by hand, then weighed and salted. My rule for salt is 11 ounces to 10 lbs. of butter. The whole lump was then placed in the dairy cellar to remain 24 hours, when it was again worked over into one lb. lumps and formed by the use of oak butter clappers.

STATEMENT OF DANIEL G. TODD.

I present for examination, 15 lbs. of September butter. It is a sample of 1000 lbs. made this season from my herd of grade Ayrshire and Jersey cows. The milk is strained into tin pans and placed in the cellar to remain 36 hours; two tablespoonsful of salt are added to each tin pail of cream. Churning is done three times a week, and after the butter-milk is entirely removed, the butter is salted to the taste and prepared for market.

STATEMENT OF MRS. J. LONGFELLOW.

The box of Butter which I enter for premium, contains fifteen lbs. and was made the present month. The following is the process of making: the milk is strained into tin pans to the depth of two and one half inches, and is allowed to remain from twenty-four to thirty-six hours, according to the weather. Then the cream is taken off and put into a stone jar with a little salt, stirred twice a day till churned, which is done twice a week. When the butter is collected, the butter-milk is drawn off, the butter taken from the churn, and worked by hand, and salted to taste, which requires about one ounce of Syracuse dairy salt to the pound. After twenty-four hours it is worked again and formed into lumps as presented.

STATEMENT OF R. S. ROGERS.

15 lbs. Butter—made from the milk of 10 grade Jersey cows (1-2 and 3-4 bred). 112 quarts were used in a common barrel churn (No. 3.) Pans used were of tin, 15 inches wide at top, 3 1-2 inches deep, being filled less than half full—milk standing 36 hours before skimming. Butter when taken from the churn was worked over three times in cold water, salted with one ounce of salt to the pound, reworked the next day and stamped.

STATEMENT OF N. W. MOODY.

The Cheese that I offer for your inspection, was made in the following manner: the milk was set as soon as it was drawn from the cows at night, with a suitable quantity of rennet to form the curd, and the same process repeated in the morning; the curds are sliced and drained, then chopped fine, salted with half an ounce of salt to a pound of cheese, and pressed thirty-six hours.

BREAD AND HONEY.

The Committee on Bread and Honey respectfully report:—

There were two entries of Honey and nine of Bread. After careful examination gratuities were awarded as follows:—

To D. C. Batchelder, of Newburyport, for Hive of Bees and Honey, a gratuity of $6.

For Bread.—To R. J. Woodman, of Newburyport, $3; Mary Braxton, of Newburyport, $3; Anna Titcomb, of Row-

ley, $3; J. Pearson, Jr., of Newburyport, $4; Lizzie A. Smith, of Newburyport, $1.

Committee—Josiah Newhall, Charles Ingalls, Robert Callahan, Dean A. Perley, Hiram A. Stiles.

PEARS.

The Committee on Pears report that the show was hardly equal to the average of former exhibitions. The season of 1868 has proved unfavorable for this fruit, much of it having been injured by mildew and the extreme heat of the Summer months. Several very fine specimens of Bartletts were found upon the tables, and also the Duchess variety was not in general inferior to that of former years. The Committee regret that so few specimens were furnished from parts of the county remote from the place of exhibition. In exhibitions of fruit it is desirable to have specimens from as many of the towns in the County as possible, in order to observe the influence of locality and different varieties of soil in its perfect development. The Committee award the following premiums and grntuities to exhibitors, viz.;

Premiums of $1 each, to Isaac P. Noyes, Newburyport, for Bartletts; Wm. Maloon, Salem, Belle Lucrative; Wm. Wheelwright, Newburyport, Flemish Beauty; Jos. A. Atkinson, Newburyport, Beurre Bosc; Wm. Maloon, Beurre Superfine; Wm. Maloon, Onondaga; Henry Savory, Groveland, Seckel; T. K. Bartlett, Newburyport, Buffum; Chas. G. Savory, Groveland, Winter Nelis; Chas. H. Lake, Topsfield, Black Pear of Worcester; Wm. Maloon, Vicar of Winkfield; Chas. Ireland, Newburyport, Lawrence; Wm. Otis, Newburyport,

L. Bonne de Jersey ; Wm. P. Sargent, So. Amesbury, Beurre Clairgeau ; Wm. H. Huse, Newburyport, Golden Beurre ; Thos. H. Cutler, Newburyport, Duchesse d'Angouleme ; Wm. Maloon, Urbaniste ; H. Janvrin, Newburyport, Sheldon ; Wm. Maloon, Beurre d'Anjou ; Wm. Maloon, Paradise d'Automne ; Wm. Maloon, Marie Louise ; Peter Wait, Danvers.

For the best Ten Plates of Pears, to Wm. Maloon, of Salem, premium of $3.

Gratuities of $2 each were awarded to Samuel Brown, Newburyport, for best specimen of Beurre Superfine ; R. S. Griffith, Newburyport, display of Pears ; Chas. M. Bailey, Newburyport, do. ; Benj. P. Ware, Marblehead, do.

Gratuities of $1 each were awarded to C. H. Meader, Newburyport, for fine specimen Clairgeau ; to S. M. Gale, Newburyport, display of pears ; Peter Wait, Danvers, do. ; Isaac Hale, Newburyport, do. ; J. B. Sargent, W. Amesbury, do. ; A. E. Goodwin, W. Amesbury, do ; E. P. Tappan, do.

For the Committee—James R Nichols.

APPLES.

The Committee on Apples award the following premiums and gratuities, viz. :

For the best Twelve specimens of the following varieties, a premium of $1 each :

Charles H. Lake, Topsfield, Porter, Baldwin, Danvers Winter Sweet, Sweet Baldwin, Ramsdell's Red Sweet, Red Russet of N. H., Detroit ; Peter Wait, Danvers, Hunt's Russet, Minister, R. I. Greening, Swaar ; Benj. P. Ware, Marblehead, Pickman Pippin, Drap d'Or, Lyscom ; Joseph Horton, Ipswich, Golden Russet ; Warren Sheldon, Danvers, Hubbards-

ton Nonsuch; E. P. Cutter, Newburyport, Gravenstein. T. G. Ordway, West Newbury, Roxbury Russet; Wm. Wheelright, Newburyport, Fall Pippin; Josiah Newhall, Lynnfield, Eustice; T. C. Thurlow, West Newbury, Ladies' Sweet; Ira S. Woodman, Groveland, Northern Spy.

For the best Twelve specimens of any other variety, $1 to B. Brickett, of Haverhill.

For the best collection of Twenty varieties, $5 to C. H. Lake, of Topsfield.

For the best Ten varieties, $3 to T. C. Thurlow, of West Newbury.

For the best plate of Apples (not less than Twenty-four specimens) a premium of $5 to John Fairbanks, of Haverhill.

A Gratuity of $1 each to the following:

T. K. Bartlett, Wm. C. Crockett, Charles Smith, B. G. Gerrish, S. M. Gale, P. T. Winkley, Otis Delano and D. Smith, of Newburyport; Wm. W. Perkins and R. T. Jaques, of Newbury; J. B. Spiller, of Haverhill; S. A. Merrill, of Danvers; Wm. R. Putnam, of Danvers; Josiah Newhall, of Lynnfield.

A Gratuity of 50 cents each to Wm. A. Felch, D. Plumer, and S. F. Newman, of Newbury; Albert Russell, N. Stacy, Mrs J. Bartlett, A. L. Flint, D. S. Purington and J. J. Knapp, of Newburyport; F. D. Chase, B. A. Follansbee, T. S. Ordway and A. L. Moore, of West Newbury; Robert Buxton, of Peabody; Peter Wait, of Danvers; J. B. Sargent, of West Amesbury.

The Committee were happy to find upon the tables this year, a good and very extensive show of Apples, and—although the fruit is small this season—most of the specimens were quite creditable to the producers. We regret not being able to award more and higher premiums, as many of the exhibitors have not been mentioned at all, and others only by a small gratuity. We would suggest to exhibitors, that the rules of the Society require at least *twelve* specimens upon a plate, in order to obtain a premium; also that "all fruit must be en-

tered in the name of the producer;" and we trust that those who gather their fruit promiscuously throughout the county—as we learned after the premiums had been awarded, had been done by one individual—will not hereafter be entitled to premiums.

Perhaps the most noticeable apple upon the tables, was the Hubbardston Nonsuch, which has of late years been growing more and more in favor, and this year it excels all others, both in size of fruit and productiveness of the tree. This is probably now the best apple of its season, while the Baldwin, Russet and Greening, still continue to be the best long-keeping varieties. Among earlier apples, the Gravenstein is looking remarkably well, while its companion, the Porter, is generally this season small and inferior. We believe the apple, more than almost any other fruit is *local* in its character, and that those varieties which originated in this vicinity and have proved superior here, have *generally* for a term of years been the most profitable and best suited to our soil and climate. There are some exceptions certainly, but we would caution those who are planting or grafting trees, not to be misled by the high-sounding names and praises of many of the New York and western apples.

We would respectfully suggest to this Society, that in our opinion some of the varieties upon its list are not worthy of cultivation; and your Committee believe—judging from their observation from year to year—that no really good specimens are, or can be brought to the exhibition, of such varieties as Seaver's Sweet, Ramsdell's Red Sweet, Jonathan, Fallawater, etc., and we have thought it best not to award premiums to them.

We would advise planters to confine themselves to a *few* varieties, and those of the highest excellence. But in dealing with facts, we admit that apples do not flourish as they formerly did—that the trees as a general thing look badly; many are dead—many more are half dead—while others look green and vigorous. These last are usually found where they have

been planted in a congenial soil, have been properly trimmed, and in most cases cultivated, and above all have been protected from the *canker-worms*, where the scourge has visited them.

Many of the pomological writers of the present day are regretting the failure of the apple crop, attributing it to a lack of *phosphates*, lime, or some other ingredient in the soil; they say, and with much truth, that the apple tree requires a new or virgin soil; and that apple culture is being abandoned for that of the pear, etc. It is our opinion that apples will again do well; that they are more valuable and more generally useful than any other fruit in our climate, and as profitable as any other farm crop.

It will be remembered—at least in the northern part of the county—that the canker-worms in 1864 and 1865 were more numerous and destructive than at any other period; and the long protracted droughts of those years, especially of 1865, when the limbs, entirely stripped of leaves, remained through the summer and fall exposed to the sun, and the ground so dry that many of the surface roots actually perished. This we think will explain why there are so many dead and decaying limbs upon the trees, and why the fruit failed to "set" the next spring, although there was a good bloom. This season and the last having been favorable to the growth and *recovery* of the trees, we predict a good crop next year, where the trees are in bearing order.

We would advise then to cut down all trees that are past recovery—thin out where they stand too thick, and gradually cut off all dead and decaying branches Shallow ploughing, especially in the fall, is beneficial; in fact the soil in an orchard should always be kept loose and broken. Above all, protect your trees from the canker-worm. Our most intelligent farmers now—having tried the various "patent protectors"—use generally the printers' ink, or the old-fashioned article, tar. One enterprising farmer who has a large crop of apples the present season, uses printers' ink reduced somewhat with rosin oil—put on with a paint brush, upon strips of tar-

red paper tacked around the tree. He commences in the fall, and applies it as often as necessary (in from three to six days) during the "running season," with one or two applications at the time the buds start, to catch the worms that were hatched below the tarred paper. Some of the ink that is manufactured on purpose and sold as "bug exterminator;" is not worth applying, as it is poor and dries sooner than tar. The greatest objection to the ink is, that the surface *dries* or coats over so rapidly, especially during cool nights (and is again soft in the day time) that the grub walks over it with impunity. Cannot some of our chemists look into the matter, and give us something that will remain *sticky* for a long time, or else that will poison the grubs? We saw one very successful experiment tried last year, where the ground was ploughed about four inches deep, just before it froze up for the winter. The worms were very plenty in the orchard the year before, but this either killed them or frightened them away, for there were none there of any consequence this year.

Other insects as caterpillars, borers, etc., are more easily exterminated, and should be in all cases where they exist.

For the Committee—T. C. Thurlow.

PEACHES, ASSORTED FRUITS AND GRAPES.

The Committee on Peaches, Assorted Fruits and Grapes, report:

The season has not been favorable for Grapes; but if we may judge from the large collection and fine specimens of Peaches on exhibition, it has been propitious for this latter fruit.

The Committee would have been glad to award *premiums* to several exhibitors who have gratuities only; but only four

premiums were offered in this department. They are awarded as follows:

For the best White Flesh Peach, to Wm. Wheelwright, of Newburyport, $1.

For the best Yellow Flesh Peach, to N. G. Bassett, of Newburyport, $1.

For the best Essex County Seedling, to J. M. Ives, of Salem, $1.

For best Collection, to Wm. Wheelwright, Newburport, $2.

Gratuities of 50 cents each are awarded to the following exhibitors:

Moody Ordway, West Newbury; D. C. Batchelder, Miss Addie Coffin, J. J. Knapp, T. K. Bartlett, H. A. Ingraham, Capt. R. Couch, Lizzie Le Bretton, of Newburyport.

GRAPES.

The Committee have awarded the premiums and gratuities for the best specimens of the several varieties and collections of Grapes, as follows:

For the best specimen of Concord Grapes, to E. S. Mosely, of Newburyport, $2.

For the best Hartford Prolific, to Luther K. Pemberton, of Groveland, $2.

For the best Isabella, to N. T. Stickney, of Groveland, $2.

For the best Delaware, to Curtis French, of Newburyport, $2.

For the best Iona, to N. T. Stickney, of Groveland, $2.

For the best Israella, to G. W. Gage, of Methuen, $2.

For the best Adirondac, to C. H. Ireland, of Newburyport, $2.

For the best Rogers, No. 3, to G. W. Gage, of Methuen, $2.

For the best Rogers, No. 4, to G. W. Gage, of Methuen, $2.

For the best Rogers, No. 15, to N. T. Stickney, of Groveland, $2.

For the best Rogers, No. 19, to G. W. Gage, of Methuen, $2.

For the best Rogers, No. 33, to J. Whittier, of Amesbury, $2.

For the best Allen's Hybrid, to G. W. Gage, of Methuen, $2.

For the best Diana, to Wm. Wheelwright, of Newburyport, $2.

For the best Creveling, to N. T. Stickney, of Groveland, $2.

For the best Collection of Cold House Grapes, to Capt. Robert Bayley, of Newburyport, $3.

For the best Collection of not less than ten varieties, to G. W. Gage, of Methuen, $5.

For the best Plate of not less than ten lbs., to G. W. Gage, of Methuen, $5.

Gratuities of 50 cents each to the following exhibitors:

For a plate of Rebecca Grapes, to Wm. H. Huse, of Newburyport; For a fine collection of Grapes, to C. H. Ireland, of Newburyport; For a plate each of fine Grapes—J. B. Sargent, W. Amesbury; Mrs. A. S. Alden, Newburyport; Aaron S. Hilton, Salisbury Mills; Wm. Kidder, Newburyport; Frederick Hills, Amesbury; J. M. Ives, Salem; R. Rich, Salisbury; Rufus S. Griffith, Newburyport; W. H. B. Currier, Salisbury; Frederick Hobbs, Amesbury.

For Baskets of Assorted Fruit.

First premium to Peter Wait, of Danvers, $3.

Second " to Wm. Currier, of Newburyport, $2.

For Specimens of Canned Pears.

No premium offered, but the Committee have awarded a gratuity to Mrs. M. Haskell, 50 cents.

Wines.

There is a collection of bottles, labelled "Wine" on exhibition; but the Committee did not feel warranted in sanctioning (on the part of this Society), the application of this name to mixtures composed of the juices of fruits, and sugar and water—whether the fruits be Grapes, Currants, Elderberries, Blackberries, or *Stalks of Rhubarb!*

The specimens of "pure juice of the grape," in the collec-

tion, did not seem to have been sufficiently well cared for in the "curing" process, to demand either premium or gratuity.

For the Committee—R. H. Seeley.

FLOWERS.

The Committee on Flowers report the following awards and gratuities:

Premiums.—J. C. Higgins, pair Hand Bouquets, $2; Warren Currier, pair Parlor Bouquets, $2; Mrs. M. A. Shaw, Floral Design, $1.50; J. C. Higgins, Floral Design, $1.50; William Wheelwright, dish Cut Flowers, $2; Chas. Adams, best 12 Dahlias, $1; J. C. Higgins, Newburyport, largest and best display, $3.

Gratuities.—B. D. Hill, Jr., Lilliputian Dahlias, $1; James Dewhirst, Dahlias and pot plants, $1; Wm. Wheelwright, general display, $1; Otis Nichols, cut Flowers and Astors, $1. T. C. Thurlow, vase of Roses; J. C. Higgins, parlor Bouquet; Thomas Allen, display of Flowers; Wm. Ashby, cut Flowers; Mrs. H. Janvrin, Pansies and general display; Mrs. Fred. Knight, Bouquets; Mrs. M. Haskell, Bouquets; Mrs. T. K. Bartlett, Geranium; John Osgood, Feather Grass; M. Susie Merrill, cut Flowers; Annie E. Burrill, cut Flowers; Warren Currier, pot plants; Nace Camill, cut Flowers; R. J. Colby, vase of Flowers; R. J. Terrey, Bouquet. Carrie L. Torrey, cut Flowers; Mrs. Lunt, Bouquet; Miss L. Greenlow, Cactus;—50 cents each.

The premiums awarded usually for Phlox, Verbenas and Native Flowers were not awarded, because there was no com-

petition or entries ; and the amount appropriated for this purpose was expended in gratuities.

Committee—Fred. D. Burnham, George D. Glover, Isaiah A. Rogers, Alfred Osgood.

VEGETABLES.

The exhibition of Vegetables was one of the largest and best ever made by the Society. It was not till 1835, seventeen years after the institution of the Society, that any mention is made in the Transactions, of such an exhibition. This occurs incidentally in a report on Fruits and Flowers, and refers mainly to the "vegetable marrow squash," then just introduced here. The writer, Dr. Andrew Nichols, says: "This excellent squash ought to be generally known and cultivated by farmers. Great care must be taken to prevent it from mixing with the blue African squash, with which it is much disposed to amalgamate and lose, in great increase of size, its peculiarly valuable properties." Thirty-three years have elapsed and this delicious product has become a general favorite, maintaining all its good qualities and purity by careful cultivation. The raising of vegetables both for the table and live stock has become quite common with the farmers of Essex, and constitutes with some of them a special branch of field husbandry.

Whoever has given attention from year to year to this department of our Show, must have noticed a growing interest in it, and a corresponding increase of contributors. This interest has been manifested not only by those who have visited the halls of exhibition, but by the cultivators, who have with commendable pride and public spirit, and at considerable

cost—often far greater than the amount they have received in premiums—sent in their choicest products. Some have taken great pains to exhibit a few vegetables or even specimens of a single variety, feeling, as it would seem, that the Society and the public have claims upon them which they must recognize. This feeling, it is to be hoped, will become more and more prevalent, not only among individuals, but towns and communities.

To give additional interest to the exhibition, there might be stands appropriated to different towns or neighborhoods, and premiums offered for the best displays by them. Something of this sort—new features in our shows—should be resorted to occasionally to wake up fresh enthusiasm and bring out more competitors. Old societies are apt to get into ruts in the management of affairs. Agricultural societies are no exceptions to this tendency, as may readily be seen by a glance at their premium lists for a series of years. Some departments admit of little or no variation in their offers of premiums or their rules and regulations, but others do admit of it. It should be the aim of the managers to make such variations as often and as far as it can advantageously be done.

In order to give more definiteness to the award of premiums and to encourage the exhibiting only of the best varieties, the premiums might be offered for a given number of each variety, just as it is done in respect to apples and pears. Why not? Surely it is as important to have the best kinds of vegetables as of fruits, and the Society should help disseminate a knowledge of the former as well as the latter.

It seems to us, too, that improvement might be made in the way of exhibiting vegetables at our shows. The object should be with managers, as doubtless it is with contributors, to exhibit them to the best advantage. They are now placed on tables and huddled together so promiscuously that they cannot be easily or intelligently viewed, either by the Committee or others. Suppose that instead of those tables, there was a series of shelves extending round the sides and through the mid-

dle of the hall, narrowing and receding as they rose, the lowest shelf for the larger specimens, such as squashes and pumpkins, the next cabbages, then root products, then potatoes, then onions, and thus continuing till all were provided for. Each contributor might have his section, large or small, according to the extent of his collection, where it could be seen together. Then all specimens of the same vegetables exhibited by the several competitors, would be in a line together, extending round or through the hall, and could be more easily compared by the Committee. Visitors, too, specially interested in any particular vegetable, could have it before them by passing round the hall, could see the names of its different cultivators and see its different varieties, and would thus avoid the difficulty now so generally experienced in selecting it from the different collections in different parts of the hall, and carrying it in the mind, but not in the eye, from one part to another. The shelves, with the uprights to support them, should be made of good materials, and so contrived as to be put up without nails or anything to damage them. Well painted and carefully housed, they would last a lifetime.

No statements are required from contributors of vegetables as to their methods of raising them and the yield of the same. Indeed, these details which go to the very foundation of good and profitable cultivation, are all passed over to another department, that of root crops, and the furnishing of them is made a condition on which premiums are awarded. These two departments, while embracing the same articles for consideration, are distinct from each other. The one encourages the display of the best specimens of vegetables, without reference to the method or expense of production—the other bestows its approval on the largest yield per acre at the least cost. The one has to do only with the product itself—the other with processes and cost as well. Hence, a more interesting and instructive report can be made in the latter than the former department. Still the latter has this compensation, it appeals directly to the sight. To the eye it tells its story, and seeing

is believing, I see an unusually fine specimen of a vegetable product, finer than any I have ever raised, and I at once ask myself why I have not equalled it. Is it for lack of the requisite skill or effort, the right kind of soil or manure, or why is it? Here in the specimen before me is a fact, visible, palpable. The fact demonstrates a possibility. If one man has raised such choice potatoes, cabbages or squashes, and this man can raise them, why not I? Thus I am forced to confess my ignorance, unskillfulness or laziness, and if there is a spark of ambition in me, I must resolve to go and do likewise.

The demand for vegetables is large and increasing. The population of our cities and manufacturing towns are nearly all mere consumers and must be supplied. The earliest products in market bring great prices. Some cultivators make a specialty of early vegetables and raise or start them under glass. Dr. Fisher, of Fitchburg, supplies New York with its first cucumbers and makes a handsome profit. A skillful cultivator in this county, Levi Emery, of Lawrence, sends the earliest lettuce to the same city. Taking advantage of the protection from northerly winds afforded by a pine grove, he also raises early tomatoes and sells his whole crop at high prices before the market is glutted.

To do all this mere muscle and manure will not suffice. This fact cannot be blinked out of sight. Scientific farming, when spoken of synonimously with fancy farming, may excite a smile or a sneer, though often with great injustice to the man of large wealth who lavishes it in introducing improved stock, fruits, tools and methods of husbandry, by which a whole neighborhood is benefited. True science as applied to agriculture, is but the key to the secrets of nature, which no man can afford to despise or reject when proffered him.

A matter of greatest concern to the cultivator of vegetable crops, is the certainty of having good reliable seed, seed that will germinate and prove true to the varieties intended to be raised, with no other admixtures. To secure this object many large cultivators raise their own seed and find their account in

it. But the business of raising vegetable seeds for sale, is carried on in the county, and by a single individual, on a scale far more extensive than many are aware of. We allude to J. J. H. Gregory, of Marblehead, who by devoting himself personally to the details, has from small beginnings built up a business that now gives employment to many hands to fill the orders that yearly come to him from every part of the country. This year he has had under cultivation nearly sixty acres, for the sole purpose of raising seed for his establishment. Some of his crops, however, are grown to furnish seed next year, so that his business is that of a farmer and seed-grower combined. Great care and pains are taken in the management of a business so vital to the interests of those engaged in vegetable culture, and he has achieved a reputation of which any man might be proud. Mr. Gregory has also written and published two little manuals, one on the Onion, and the other on the Squash, giving full information as to their different varieties and qualities, the best methods of raising and keeping them, and answering enquiries that have been made of him in the course of his business, all in so plain and practical a way, that even a novice can understand it.

The exhibition this year was largely indebted to S. A. Merrill, of Danvers, whose collection contained over a hundred varieties, and to William Huff and others of Newburyport, who severally made large and excellent displays. There were, however, not a few specimens of mammoth squashes, the quality of which must be inferior for table use. We trust the Society will not lend its sanction to mere monstrosity. There is a standard in size and quality for nearly all varieties of vegetables, which is well known to cultivators and dealers, but not easily described. To this standard competitors should be held to conform, in order to retain them in their purity, just as much so as the exhibitors of the various breeds of animals are required to conform to their standard. It is well to remember, too, that all vegetables raised on low wet lands, whilst they attain to a large size, have more water and less

saccharine in their composition than such as are grown on high and dry soils. Of course the latter will keep better, and are better for the table than the former.

To Samuel A. Merrill, of Danvers, for largest and choicest variety, the first premium of $12.

To William Huff, of Newburyport, for variety, the second premium of $10.

To J. J. H. Gregory, of Marblehead, for variety, the third premium of $8.

To A. T. Newhall, of Newburyport, for variety, the fourth premium of $6.

GRATUITIES.

To Charles Smith, of Newburyport, for variety, $3 ; T. K. Bartlett, do., do., $3 ; N. R. Cole, do., do., $2 ; William Bricher, do., do., $2 ; David O. Nelson, Rowley, do., do., $2 ; R. T. Jaques, Newburyport, do., do., $1.50 ; Benj. P. Ware, Marblehead, do., do., $1.50 ; Daniel H. Stickney, Groveland, potatoes, $1 ; Moody Ordway, Newburyport, do., $1 ; M. C. Andrews, Lawrence, do., $1 ; George Thurlow, West Newbury, do., $1 ; Amos Poor, Jr., do., 50 cents ; Edmund Smith, Newburyport, do., 50 cents ; Alfred Kimball, Bradford, do., 50 cents ; Frank Barnes, Boxford, do., 50 cents ; Rev. D. F. Fisk, Newburyport, sweet potatoes, 50 cents ; Mrs. A. W. Miltimore, do., do., 50 cents ; Thomas Jones, Gardener to Warren Ordway, Bradford, do., 50 cents ; Sidney Low, Essex, do., 50 cents ; Warren Currier, Newburyport, squashes, $1 ; James H. Dockham, do., do., 50 cents ; Wm. Wheelwright, do., do., 50 cents ; John M. Ives, Salem, Tartarean squash, 50 cents ; Hanson Ordway, West Newbury, onions, $1 ; George Donnels, Newburyport, do., 50 cents ; G. A. Randall, Newbury, do., 50 cents ; S. F. Newman, Newbury, do., 50 cents ; W. E. Crockett, do., corn, 50 cents ; Sidney Low, Essex, do., 50 cents ; Michael O'Conner, corn, 50 cents ; Mrs. Sarah Hale, do , 50 cents ; B. G. Gerrish, Newbury,

parsnips, etc., 50 cents; John C. Higgins, Newburyport, cauliflowers, etc., 50 cents; Miss Matilda Plummer, do., vegetables, 50 cents.

For the Committee—Allen W. Dodge.

VEGETABLES RAISED BY BOYS.

The Committee on Vegetables—premiums for Boys, report;

The exhibition in this class was highly creditable, and indicated industry and laudable ambition in the boys.

The largest and best variety was entered by Ernest S. Merrill, of Danvers, and they award him the first premium of $10.

To Frank Barnes, of Boxford, for his collection of varieties of potatoes, they award $3.

To John S Somerby, of Newburyport, 15 years old, for his squashes, $1.

To Eben E. Cutter, of Newburyport, 10 years old, for his potatoes, $1.

Committee—Geo. B. Loring, Wm. R. Putnam, Jonas Holt.

COUNTERPANES, CARPETINGS AND RUGS.

The Committee on Counterpanes, Carpetings and Rugs, report as follows:

There were thirty-two entries of Counterpanes or Quilts, and thirty-nine entries of Rugs and Braided Mats. No floor or stair carpetings were offered. The display of Counterpanes

and Quilts was good, many of them containing a very large number of pieces, showing patience, industry and considerable skill and taste in putting them together.

The first premium is awarded to Miss Martha J. Bradley, of Newburyport, for a fine Quilt containing 6276 pieces, $4.

The second premium is awarded to Miss Sarah E. Batchelder, of Newburyport, for Counterpane containing 6783 pieces, $2.

Gratuities are awarded as follows:

To Mrs. F. Smith, Newburyport, 75 years of age, for Quilt containing 1200 pieces. $1.

To Mrs. Vesta Edgerly, Old Ladies' Home, Salem, 79 years of age, for Quilt containing 8912 pieces, made without glasses, $1.

To Miss Ann F. Chase, West Newbury, for Counterpane finely put together, $1.

To Miss Ella D. Wilson, West Newbury, for Quilt (called Job's patience) containing 4000 pieces, $1.

To Miss J. T. Rowe, Newburyport, for fine workmanship on a silk Quilt, $1.

To Mrs. J. Smith, Newburyport, 80 years of age, for a knit Counterpane, $1.

To Mrs. F. D. Morse, Bradford, 72 years of age, for white Bed-spread, $1.

To Mrs. N. Blaisdell, Haverhill, for Quilt, $1.

To Miss Ella M. Sawyer, West Newbury, for Quilt, containing 4600 pieces, $1.

To Miss Elizabeth Merrill, Newburyport, 11 years of age, for a Quilt, $1.

To Mrs. Dolly Colby, Salisbury, 77 years of age, for Quilt, $1.

RUGS.

There was a good number of Rugs on Exhibition, some of which were very fine; and considering that many of them were made from material of little or no value, they did much credit to the skill of the contributors.

The first premium was awarded to Miss Ella M. Sawyer, of West Newbury, for a hearth Rug, beautifully shaded in colors, and well made, $3.

The second premium was awarded to Mrs. Mary Titcomb, of Newburyport, 79 years of age, for Rug, $2.

Gratuities were awarded as follows :

To Mrs. Sarah Harris, Newburyport, for Rug, $1.

To Mrs. George Stover, Newburyport, for two Rugs, $1.

To Miss Hannah L. Currier, Newburyport, for Rug, $1.

To Mrs. C. K. Ordway, West Newbury, for Rug, $1.

BRAIDED MATS.

The display of Braided Mats was good, there being a large number on exhibition.

Gratuities were awarded as follows :

To Mrs. Augusta P. Orne, Danvers, a lady who has been totally blind 9 years, for a Mat made without the aid of any one—assorting and shading the colors, threading her own needle, braiding and sewing every strip, and putting the same together, $2.

To Mrs. Amos F. Hobbs, Wenham, for large and extra well made Mat, $2.

To Miss Sarah A. W. Dodge, Newburyport, for Mat containing 921 feet of braids, $1.

To Miss Ann M. Pemberton, Groveland, for two Mats, $1.

To Mrs. William H. Kendall, Newburyport, for Mat, $1.

To Miss Eunice A. Woodwell, Newburyport, for Mat, $1.

To Miss A. Delano, Newburyport, for Mat, $1.

For the Committee—Thomas P. Gentlee.

FANCY ARTICLES.

The Committee on Fancy Articles award the following premiums and gratuities :

For the best specimen of work performed by a child under

12 years of age: to Mary J. Knight, of Newburyport, aged 11 years, the first premium of $3.

To Charles R. Merrill, of Newburyport, aged 9 years, the second premium of $2.

GRATUITIES.

To A. C. Merrill, under 12 years, $1; Etta R. Cutter, under 6 years, 50 cents; Nellie Clark, under 8 years, 50 cents; Sylvia Noyes, under 6 years, 50 cents.

To William Sumack $3.

To the following persons, $1 each: Miss H. C. Bartlett, Miss M. E. Couch, Mrs. A. W. Knapp, John Radcliffe, Lucy Caldwell, John T. Brown, Mrs. H. Armstrong, Mrs. John Burrill, Mrs. J. P. Tappan, J. H. Carter & Co., E. B. Chase, S. E. Morse, M. J. Teel, Mary C. Currier, Mrs. G. S. Gillett, D. M. French, Hanson H. Adams, Charles A. Todd, James W. Wilson, S. T. Brown, Mrs. E. K. Batchelder, C. R. Sargent.

To the following persons, 50 cents each: Mrs. G. J. L. Colby, Miss E. Harriet Bayley, Mrs. William Ashby, Miss Annie L. Knapp, Martha J. Bradley, Miss J. N. Balch, Mrs. A. S. Pettigrew, Mrs. George W. Hayes, Margie Tappan, S. L. Tappan, May W. Bartlett, Mrs. Martha Silloway, Mrs. S. S. Knight, Gordon Plumer, Capt. Geo. L. Woods, Laura A. Shaw, May M. Bartlett, A. M. Connell, Thomas A. Hamilton, Charles Meinerth, Lucy E. R. Hill, Lizzie F. Foot, Mrs. S. Boardman, Frank Thurlow, H. H. Adams, Miss S. C. Kimball, Miss Kate Hoyt, Mrs. Hannah B. Coffin, Charles A. Morrill.

Committee—E. F. Ballou, Andrew Nichols.

MANUFACTURES AND GENERAL MERCHANDIZE.

The Committee on Manufactures and General Merchandize report the award of the following gratuities:

To the Merrimack Brush Co., Newburyport, $2; Charles

Bartlett, do., Car Coupling, $1; Colby Lamb, do., Meat Chopper, 50 cents; E. F. Ballou, do., Ornamental Hair Work, $2; Wm. Kuhl, do., Watches, Chronometer and Nautical Instruments, $2; John Dow, do., Book Case, $1; Wm. E. Crockett, do., Belting and Rolls, $1; L. D. Wheeler, do., Horse Shoes and Tools, $2; J. Burrill, & Co., do., Machine Graining, 50 cts.; Steam Heater, $2; I. Hale, Jr., do., Egg Beater, 50 cents; J. S. Hart, do., Coat, Vest, and Pants, $3; Sewell Jewett, Haverhill, Blind Fastening, $1; Urias Urrey, North Andover, Horse Shoes, 75 cents; Hugh McGlew, Newburyport, do., 75 cents.

Committee—M. T. Stevens, S. C. Bancroft, Richard Plummer, Wm. Foster, Edwin Mudge, H. G. Herrick.

FARMS.

The farm of Mr. Samuel A. Merrill, of Danvers, or as it may properly be called, the *vegetable garden*, has been brought to the notice of your Committee on Farms, and some members of that Committee have visited it twice during the season. The farm comprises fifteen acres of land, the soil of great variety and the surface very uneven—quite unlike that usually chosen for the purpose of market gardening. This inequality of surface gives better facilities for the arrangement of hotbeds so as to secure suitable protection from the cold winds of early Spring; and, it must be conceded, is better adapted to the production of some of the market crops, especially those intended for the *early* market. It precludes the necessity of underdrainage, which is an absolute necessity on some flat lands, where for the want thereof many crops failed entirely

the last spring. This farm, before Mr. Merrill's occupation, was in the care of an administrator, who testifies that for a series of years no manure was applied, but sufficient crops were taken off to reduce the land to the lowest condition.

Mr. Merrill, according to his statement which accompanies this report, took the only course possible to restore it to fertility, viz.: the application of large quantities of manure of various kinds, and the practice of thorough cultivation; and some of the Committee who from time to time have had opportunities to witness his operations, will testify that these operations have been conducted with an energy and a determination to "push things" in this line, worthy of imitation by all farmers within our borders, or even in the famed county of Middlesex. The crops raised have generally been good, and the farm has shown an increased capacity from year to year.

In the specialty of hot-bed culture, it appears that Mr. M. has been quite successful. As will be learned from his statement, a very long range has been laid down, and the arrangement and management seem to have been such as to secure satisfactory results.

The crops of Mr. Merrill are more varied than is usual among the cultivators of this vicinity, commencing with the earliest lettuce under glass in the spring, with other crops constantly maturing, and terminating with the late root crops in the autumn. One advantage of this system is, that if an unfavorable condition of the season affects *one* crop injuriously, *others* may compensate for the failure, by uncommon excellence; or if some crops sell at a low rate in the market, others will bring such prices as to keep the scale even. This fact was particularly noticeable within a year or two, when it happened that the earliest vegetables under glass sold at very high prices, while those maturing late in the season, barely paid the cost of cultivation.

During the visits of your Committee, they saw many of the crops which are enumerated in the statement of Mr. Merrill,

on the ground, and they appeared to be abundant in quantity and of superior quality. Other crops which had been harvested and sold, some of which were seen by a portion of the members at an early visit, they have no reason to doubt are fairly represented by figures in the statement.

Many specimens of vegetables from the crops raised on this farm, have been exhibited at our annual exhibitions, and sufficiently attest the success which has attended the labors of the proprietor, which success may in our judgment be attributed to the abundant application of good manure; the thorough working and pulverization of the soil; care and judgment in the selection of seeds, and the use of those only of known purity and excellence; the planting of the several varieties in such localities with regard to their habits and wants as will insure their best growth and most complete maturity; and such clean and careful cultivation and attention as only can secure the desirable results. When these requisites are united with the capacity to market the product in the best condition, regard being had to its proper maturity, and to the time when it can be disposed of for the highest price, whether (if a late crop) by putting it at once in the market, or reserving it a few weeks or months for a more favorable sale,—the farmer cannot fail in ordinary seasons to receive a fair, though moderate compensation for his labor.

The buildings are of a very substantial character—the house being of brick, and the barn of stone. The barn, though not constructed for the purposes for which it is used, and not convenient for an *ordinary* farm, is tolerably well adapted to the wants of this farm; and the other buildings, together with the extensive range of hot-beds, are well planned and situated.

Taking into view the fact that the land was worn out by neglect and constant robbery for a series of years, and that it has now become by the judicious management of Mr. Merrill, one of the best and most productive market gardens in this vicinity, and as a recognition by the Society of the value of

such an example to the farmers of the County, we award to him a gratuity of twenty dollars.

For the Committee—Chas. P. Preston.

STATEMENT OF S. A. MERRILL.

My farm is situated in the town of Danvers, near the Iron Foundry. It comprises about fifteen acres of land, with substantial brick dwelling house, stone barn, and other out-buildings. It formerly belonged to Matthew Hooper, deceased, a well known and enterprising citizen. I bought in 1864. At that time no part of the land was under cultivation, except a small garden. The rest had been laid down to grass several years before, and was nearly run out. I bought in the summer, ploughed first in the Fall, and planted first in the following Spring. I planted about fourteen acres, mostly with garden vegetables. In the Fall of 1864, I laid down about 800 feet in length of hot-beds five feet wide. In 1866 I planted the same land with about the same variety of vegetables as the year before. I also set out about 100 pear trees that year, and reclaimed a piece of land of about half an acre, which was so low as to yield nothing. I laid through it several blind drains. This land now bears grass at the rate of four tons per acre. In 1867 I planted the whole land as before, treating it about the same in all respects. During these three years I dressed the land heavily, chiefly with a compost of meadow mud, fish, night soil and barn-yard manure. As I spent so much during this time for manure, I had to content myself without any other profit from my operations, than the increased agricultural value of the land. I am satisfied from its present productive capacity, that this profit was a very fair remuneration for the labor and capital invested. I commenced my farming in 1868, with about 75 cords of manure, planting

about thirteen acres. In addition to this I used about 35 cords upon neighboring lands which I hired, about which nothing further need be said, as I propose to confine my Statement to my own farm. I planted about three acres of onions upon the most elevated portion of the land, which is a gravelly loam with a clay bottom. The present year has been a bad one for onions everywhere. I had what may be called a middling crop I planted one acre of cabbages which yielded a good crop, two acres of sage which succeeded well, one acre of beets, three quarters of an acre of carrots, one acre of tomatoes, two acres of squashes and melons; the balance of the land having been devoted to various vegetables. As to most of the vegetables, they did not suffer from the weather, the crops being all I could reasonably expect. The partial failure of the onion crop was owing to unfavorable weather. There was no trouble from the maggot, and indeed, there never has been on this farm that I am aware of. The potato crop was reduced about one half by the rot. During the season I have kept four cows, five horses and three or four hogs. But as I have carried on this farm in connection with other lands, and have kept no separate account of the labor, I cannot give any definite statement of the expenses.

The product for 1868 was as follows:

Early vegetables, including tomatoes, lettuce, early cabbage, etc., total amount of sales,	$3153,98
Sage, two tons at $440 per ton,	880,00
Late squashes, four tons,	160,00
Onions, in addition to sales included in first item, (600 bushels,)	1200,00
Beets, 200 bushels,	90,00
Carrots, ten tons,	150,00
Hay, four tons,	100,00
	$5733,98

I do not understand it to be necessary to give any details of

the expenses of carrying on the farm, as my object is not to make any exhibit of the mode or success of carrying on my business, but to show that I have improved the farm; that it is now in a good state of cultivation, and that it has the past season produced large crops. I can say, however, that I have the present year made farming pay as well as I could reasonably expect.

IMPROVED PASTURE AND WASTE LAND.

The Committee on Improved Pasture land, etc., have attended to their duty and report:

One entry only was made, and that by Mr. Samuel B. Locke, of Andover.

His pasture, containing about three acres, was two years ago a very rough piece of land, almost covered with boulders, and a part of it was a bog. Mr. Locke has laid a nice under-drain, so that he can now plough the whole land; and he has ploughed about one-half, and had it planted to corn and potatoes. I went to examine the land August 26th. The corn and potatoes looked very well at that time, and I was very sorry that no other member of the Committee was present.

Messrs. Brown, of Ipswich, Smith, of Lynnfield, Batchelder, of Wenham, and myself, visited the ground October 30th, but owing to a mistake, Mr. Locke was not at home. His man said the potatoes were so badly diseased, that they had fed the greater part to the cattle. The corn was not harvested at this time, and the Committee judged it to be a very large crop, and were very much pleased with the clean and neat appearance of the field. They unanimously recommend the award of the first premium of $15 to Mr. Locke.

For the Committee—Jonas Holt.

STATEMENT OF SAMUEL B. LOCKE.

I propose to offer a piece of Pasture land for premium. It consists of about four acres, one half of which I have ploughed up. The expenses and profits of the same are as follows :

Expenses.		Raised on Same.	
To Getting out Stone,	$50.00	86 Bush. Sound Potatoes, @ $1.00,	$86.00
Ditching and Stoning,	70.00	114 " Unsound " 50,	57.00
Ploughing,	16.00	95 " Corn in the Ear, 75,	70.50
Manure,	32.00	2 Cart loads Pumpkins,	10.00
Seed Potatoes,	12.00	Stocks and Buts for fodder 1 acre about an acre of Corn,	10.00
Seed Corn,	50		
Hoeing and Harvesting,	54.00		
	$234.50		$233.50

ESSAYS AND REPORTS OF COMMITTEES.

The Committee on Essays and Reports of Committees, received from the Secretary, for their consideration, four Essays and six Reports, and award as follows :

To Dr. J. R. Nichols, for Essay on "Special Manures," the premium of $10.

To Gilbert L. Streeter, for Essay on "Management of the Hen Coop," a gratuity of $8.

To Ben. Perley Poore, for Report on Swine, the first premium of $15.

To Allen W. Dodge, for Report on Vegetables, the second premium of $10.

The Committee considered themselves author zed to award a premium to *one* essay only, however deserving the others might be, but we recommend that all of them should be printed with the Transactions of the Society, as they are too important and interesting papers to be lost to the public ; the agricultural essays which give the results of the careful and intelligent experiment and observation of the writers themselves, are of such practical value that it would perhaps be well so to enlarge the authority of this Committee, that premiums could be awarded to all such essays as should be worthy of this acknowledgement.

For the Committee—Daniel E. Safford.

Note.—Dr. Nichols declined serving on this Committee.

MANURES—SPECIAL OR CONCENTRATED FERTILIZERS.

BY JAMES R. NICHOLS, M. D., OF HAVERHILL.

Nothing more readily attracts the attention of farmers, or conveys more palpable ideas of value, than *bulk* in manurial substances, and yet, nothing is more deceptive or fallacious. A huge bank of animal excrement under the eves droppings of the barn, has indeed a positive value, but it does not consist in the great mass of the material of which it is made up. Squeeze out the water, remove the sand and chaff, and we can place all the fertilizing elements of that heap in the smallest sized dump cart. The high value of stable or barn yard manure, is not found in the eighty or ninety per cent of water, silica, etc., which it contains, but in the nitrogenous elements—the potash, soda and phosphatic salts, which in amount occupy relatively a most insignificant position. And I may say further, that the excrementitious salts found in the manure heap, have the highest positive value as plant food, of any substances with which we are acquainted. They exist in a form ready to be again taken up by plants and assimilated into the living organism. They differ from the same class of agents found

isolated in the hands of the chemist, inasmuch as they have had conferred upon them in their passage through vegetable and animal structures, a kind of vitalized capability, the nature of which is imperfectly understood by chemists.

But the deceptive nature of bulk in fertilizing agents, is not confined to barn yard manure. Leaves, peat, muck, chaff, etc., need to be carefully examined in order to understand their actual value to the farmer. I have been led during the present autumn to make somewhat extended analysis of these substances with the view of testing the correctness of some published statements regarding them, and also, to learn of how much positive service they may be to the farmer. A bushel of well pressed dry leaves, as they fall from the trees in autumn, weigh about four pounds; by further drying, they part with a little more than thirty per cent of water held in the cells of the leaf structure. A cord of absolutely dry leaves will weigh about 325 lbs., reckoning one hundred bushels to the cord. In weight, then, a cord represents about one twelfth of a cord of wet barn yard manure, and if they contained the same amount of fertilizing material in the same condition, would be equal in value to that amount of manure. But this is far from being the fact. The dried leaves I have found to stand relatively to the leached organic matter of manure, as 10 to 30, in ash value, and when the soluble salts of manure are taken into account, the comparative value is as 10 to 60, weight for weight. A cord of dry forest leaves, made up of the usual deciduous varieties, maple, beach, oak, etc., has an actual *manurial* value of not over *fifty cents*, reckoning good stable manure at eight dollars the cord. Will it pay to collect them? Certainly not for

the amount of fertilizing material they contain. As litter or absorbents in the stable, leaves have some value, but much less than straw, inasmuch as they lack the reedy character of straw, and because they are far more difficultly and slowly decomposed.

A pound of good thoroughly formed peat taken fresh from the meadow upon my farm, lost of water in drying, a little more than fourteen ounces. A farmer drawing from his meadow a cord of peat weighing 4000 lbs., has upon his wagon 3500 lbs. of water and but 500 lbs. of the dry material he seeks. This, dried and compressed, could be placed in a couple of our largest sized farm baskets. The amount of ash constituents in the pound of peat after drying, was a little less than 10 per cent, so that when we reduce the heavy load of peat, which to the eye appears so bulky and valuable, down to its contained inorganic principles, we find the whole amount to be less than 50 lbs. I hope not to be misunderstood in the matter. The ashes are far from being the only manurial part of peat, and as in burning some of the most valuable elements are volatilized and lost, it is not good economy to burn peat for the purpose of securing the ashes. Fresh peat allowed to ferment in contact with lime, is changed into new substances capable of nourishing plants, and where it can easily be obtained, it pays the farmer well to secure a good supply. I cannot help remarking, however, in this connection, that many of the statements made by our chemists and journal writers regarding the value of muck or peat, are simply absurd, and are proved erroneous by practical experiment. The great value of peat after all, lies in its absorbent qualities. From the experiments and experience of a considerable number of years, I feel more inclined to urge the

farmers of our County to save the *liquid excrement* of their animals by the use of seasoned peat in their cattle stalls and manure pits, as an absorbent, than to recommend them to drag it many miles at much expense to be used by itself or in compost, for fertilizing purposes.

How strangely we overlook the value of the liquid excrement of our animals! A cow under ordinary feeding furnishes in a year 20,000 lbs., of solid excrement, and about 8000 lbs. of the liquid. The comparative money value of the two is but slightly in favor of the solid. This statement has been verified as truth, over and over again. The urine of herbiverous animals holds nearly all the secretions of the body which are capable of producing the rich nitrogenous compounds, so essential as forcing or leaf-forming agents in the growth of plants. The solid holds the phosphoric acid, lime and magnesia which go to the seeds principally; but the liquid, holding nitrogen, potash and soda, is needed to form the stalk and leaves. *The two forms of plant nutriment should never be separated or allowed to be wasted by neglect.* The farmer who saves all the liquids voided by his animals, doubles his manurial resources every year. Good seasoned peat is of immense service to farmers, when used as an absorbent, and the stalls for animals should be so constructed as to admit of a wide passage in the rear, with generous storage room, besides, for peat, to be used daily with the excrement.

The remarks above made, may be regarded as preliminary to some brief, general statements upon another branch of the subject of fertilizers. With a proper idea of what really constitutes plant aliment, and of the physical and chemical nature of the bulky substances in general use, the enquiry very naturally arises, why cannot

the concentrated principles of such be obtained through other channels, and used more economically and directly upon our lands? An answer to this enquiry opens up the whole subject of the value and use of special or concentrated fertilizers, and this is a subject which has been so often and so fully discussed by theorists and others, that the reader will not thank me for going over the ground again. Upon no subject connected with agriculture does a wider difference of opinion prevail, and the discussion of the subject in the usual unsatisfactory empirical way does not tend to settle disputed points, or clear away the clouds of doubt which hang around the whole matter. Experiment usually decides controverted points in matters of physical enquiry, and it is capable of reaching this end in the subject under consideration, but it must be made carefully, intelligently, and be long continued. Having entered upon a series of experiments of this nature with the determination to make no report for at least five years, or until soils could be carried through a period long enough to observe the effects of disturbing influences, and also learn something regarding the growth of different crops, and the lasting effects of peculiar modes of treatment, I find myself at a point of time when it is proper to examine and make known results. The time and space allowed me in this essay do not admit of detailed statements, and such must be reserved for another channel of communication, if health and strength permit.

The experiments have been made upon a farm of about eighty acres, which was purchased in 1863 with the view of entering upon a course of experimental enquiry interesting to agriculturalists. The question deemed most important to decide was, whether a run-down farm

could or could not be brought into comparative good tilth by the employment of fertilizing agencies outside of stable and barn yard manures. The farm at the time of purchase was well suited to a trial of this kind, as it had been in administrators' hands for several years, and was consequently neglected and unproductive. The soil is varied in its character, with upland and lowland, a fine peat bog occupying a basin between the hills. A portion is silicious, another portion loamy with a clay subsoil, and still another part is rich in organic *debris*, a forest having until within a few years densely covered it. Perhaps no tract of land in our county presents a greater variety of soils, of differences of exposure, or affords the gradations from wet to dry, so desirable for fair experiment. The product at the time of purchase consisted entirely of hay—about twelve tons being produced, of indifferent quality. The crops the present year upon lands embraced in the original purchase, have been 30 tons of good hay, 100 bushels of potatoes, 25 bushels of wheat, 150 bushels of corn, 75 bushels of turnips, and one and a half tons of grapes, beside other fruits in considerable quantities. There has been a steady increase in the amount of crops each year, notwithstanding a series of most unfavorable seasons. The number of acres in tillage is not far from twenty. No stable or barn yard manures, excepting a few loads at the start, have been purchased during the five years, and the amount made upon the premises has been small; the stock consisting until within the past year of only three cows, a pig and one horse. At present the farm sustains eleven cows and heifers, three horses, a pig, and during a part of the year, one yoke of oxen.

The fertilizing substances used (of which an accurate

account has been kept, as also of crops, expenses of labor, etc.), embrace the entire range of those agents which chemistry suggests, and those which have been brought to notice through the recommendation of farmers and experimenters—bones, ashes, lime, salt, the nitrates of potassa and soda, sulphate of ammonia, carbonate of ammonia, plaster, potashes, fish pommace, shorts, muck, horn shavings, and lastly the refuse of the Maine lobster factories. The methods of application and the conditions under which these have been employed, the combinations produced, present details which although extremely interesting, are too extensive to enter upon in this essay. A definite end has been kept in view, that of securing practical facts from which safe general conclusions could be reached. Of course, many experiments known to be empirical, have been undertaken, and the results noted. For example, a half acre of grass land was divided into eighteen equal parts, and eighteen different substances applied: the results were curious, but the experiment actually proved nothing, although a great difference was observable in the crops of grass. More than one half of the experiments which we find reported from year to year, are of this nature. The substances affording the highest satisfaction have been those which furnished in largest quantity and at the lowest rates, the great fundamentals of plant food, phosphoric acid, lime, potash, nitrogen. These have been obtained from bones, ashes, potashes, fish pommace, and nitrate of soda principally. Bones have been largely dissolved in acid, and true phosphate and superphosphate of lime made upon the farm premises. Bones ground and unground have been dissolved in the caustic lye of ashes, also in commercial potashes, and fertilizing

substances of the most prompt and satisfactory character produced. I doubt if better crops of wheat and corn have ever been produced in the County, than have resulted from the use of these agents, upon weak lands. I think it must be conceded that the results of these labors go to prove that exhausted soils can be brought and sustained in good tilth by concentrated chemical agents, at an expense considerably less than by the use of excrementitious manures at present market prices in the more densely populated parts of our country. In conclusion, I will briefly present some facts regarding a special experiment upon a measured acre of hill land, dry, and exhausted from repeated croppings. It has been continued through five consecutive years. In the autumn of 1863 it was ploughed, and in the succeeding spring dressed with 500 lbs. of pure fine bone sown broadcast, and planted with corn, a handful of homemade superphosphate mixed with ground nitrate of soda, placed in each hill. One hundred and fifty-seven bushels of corn in the ear were taken from the field in the autumn of 1864. After the corn was removed, the land was ploughed and again dressed with 500 lbs. of a compost made up of bone dust, ashes, and refuse salt-petre, and sowed down to winter rye. The crop was 31 bushels of nice, plump grain. The season of 1866 was exceedingly dry, and the ground became so parched that the tender grass roots were greatly injured. The crop of hay was twenty-three hundred pounds. The next season, a top dressing of 500 lbs. of compost made of bone gelatine and muck, was given it in the spring, and a crop of hay cut weighing forty-three hundred pounds. A heavy aftermath was secured this season, which was not weighed. The present season, the crop of hay reached two and a half

tons, and the field appears to be in good condition for a fine product next year. Here we have what may be considered a fair experiment, which proves that without the use of animal excrement, a worn-out field may be brought to produce very generous crops—crops which pay a good return for the expense incurred. It proves that chemical unorganized agents are capable not only of supplying nutriment to plants for a single year, but for sustaining crops for a series of years. The fertilizing elements supplied for the five years cost a little less than thirty dollars. The experiment upon this field is not regarded as finished, and the crops will be noted until they are observed to falter.

AGRICULTURE OF ESSEX COUNTY.

BY W. A. DURANT, OF LAWRENCE.

Doubtless there are many members of the Society who can remember the time when Salem and Newburyport were the chief markets of the County; when farmers drove down to these ports their loads of grain, beef, pork, mutton, butter and cider, and returned with their supplies of groceries and dry goods; when the principal income from the farm was from the sale of grain and stock, and the light lands of Danvers, Andover, and in the valley of the Merrimack were highly valued for raising corn; when, after supplying the inhabitants, there was still a surplus of provisions; in short, when agriculture was the leading interest of the County. But in the course of events in the last score or two of years, the enterprise and success of our manufacturers have led them to add rapidly forge to forge, spindle to spindle, loom to loom, and factory to factory, causing thereby thriving villages, large towns and populous cities to spring up where there were formerly only small and secluded hamlets or sparsely populated farming districts, until by these large accessions to the population, the

number and importance of the home markets have been greatly increased.

The questions very naturally arise: Have our farmers in the meantime manifested the same energy and progressive spirit? Have they been making their rough fields smooth, their waste places productive, adding barn to barn, doubling and trebling their crops to meet the wants of these new markets? What are they now doing towards supplying the inhabitants with food, and what can they do? The fact that the produce of the County is not sufficient for its own demands, is well known. The exact amount required beyond what is produced is not so easily told; however, the returns of the last State census enable us to obtain an approximate idea. From these we learn that the beef, pork, mutton and veal produced within the County, give to each inhabitant a little over 21 pounds; all the wheat, rye, barley and buckwheat divided would be not quite seven quarts apiece. Allow that the whole potato crop is merchantable, an equal division would give 2.21 bushels for each; but deduct a fair percentage for refuse, seed, and what is in other ways used upon the farm, and there would be left only five or six pecks. If all the butter sold from the farms were carried to Salem, the good people of that city would find themselves limited to about ten pounds each; the cheese likewise if taken to that market would furnish about one pound. The supply of milk may be equal to the demand.

In fruitful seasons there is a surplus of winter apples and cranberries, and any one at all acquainted with the onion crop would not doubt there was always enough for home consumption with some to spare. With other vegetables there is a deficiency, for while a portion of

the products of the market gardens in the south-east part of the County is carried to Boston; Newburyport, Amesbury, Haverhill and Lawrence are receiving supplies from neighboring towns in New Hampshire and Middlesex county. Add to these the early vegetables and small fruits brought from the South, and there is a large amount to counterbalance. The quantity of small fruits, both fresh and preserved, and early vegetables brought in is very large, and yearly increases, and I am not sure but that what is thus brought into the County, taking a number of years together exceeds what is sold of all kinds produced here even during fruitful seasons. If all the corn and oats were fed to the horses at the rate of six quarts per day, it would last them a hundred and nine days. The English hay divided equally among the horses and mules, oxen and steers, cows and heifers, and one fifth of the sheep, would give 1.33 tons to each animal. Add in the meadow and salt hay, and they will have 2.15 tons each. There are then only four articles of importance where the quantity raised comes up to the demand.

Thus the County has gradually passed from exporting to importing provisions. This fact becomes more significant when it is remembered that our farmers are engaged exclusively in the production of food. Were any considerable portion of land devoted to raising tobacco, flax, broom-corn, or any material to supply our numerous manufactures, the case would assume a different aspect. This great deficiency cannot arise from an excess of population, for in 1865, after deducting the 4,835 acres of what is termed unimprovable land, there was still more than one broad acre to every inhabitant. It cannot be because too much land is given to the growth of

wood, for our wood lands amount to only 22 per cent of the whole. And will any one say that it is because the land already produces all it can bear, when the farmers themselves admit that for every acre of improved land they owned, there were .41 of an acre of unimproved land upon which they did not cut a ton of hay per acre, upon either marsh, meadow, or English sward; that their corn would not measure more than 30 bushels per acre; that their potatoes, both large and small, did not exceed 78 bushels; that an acre of oats although selling at one dollar per bushel, cash, would give only 23 1-2 bushels; and while all other grains were bringing unprecedented prices, rye yielded 16 1-3 bushels, barley 17 1-3, and wheat 19 bushels per acre. Can it be claimed that the land is well stocked, when there are 9.3 acres of improved land to every cow and heifer; or in still another form, only one cow for every 14 persons; when the sheep average one and a small fraction to every farm; when 1,039 farmers kept neither oxen nor steers, and if all the horses in the County were owned by farmers, they would have only 2.3 each. At that time pork brought prices that put Western farmers in high fever to multiply greatly the porcine race, but an equal division of all the swine in the County gives two hogs and a very small pig to each farm. What could be done to meet the deficiency when to work this hard, rough, rocky New England land, the persons employed were 1.6 for every 57 acres, which is the average size of our farms.

The returns further show for that decade, that there was an increase in horses of 539; sheep 1,150; swine 4,542; cows and heifers 1,235; and a *decrease* in oxen and steers of 3,986. The tillage and mowing of all kinds amounted to 40 per cent of all the farming land

in the County. In 1855 the acres in grain and hoed crops numbered 15,649. In 1865 the same numbered 14,430; a decrease of 1,219 acres. The gain in English mowing for that decade was 2,289 acres, so that the actual increase of tillage and upland mowing was 1,070 only. The acres in meadow and marsh mowing are not given in the returns of 1855, so that I cannot show the exact gain of land of that description, but allowing one half as much as there was in the upland, there would be gained about 1500 acres in all, in which if every farmer had an equal share, there would not be half an acre for him—not a very heavy job, considering there were ten years to accomplish it. At this rate of progression it will require 343 years to reclaim the 51,578 acres of unimproved land in the County.

But it is not necessary to confine ourselves entirely to statistics to learn the condition of our agriculture. An ocular demonstration may be quite as forcible as one of figures. It is true that men have left the crowded city from an inborn love of rural life and rural pursuits, and by their enterprise, skill and money have made their mark along the seaboard and in various other places, and thus the general appearance of the County has been much improved within the last few years, and to these amateurs or patrons of the science be all praise. Yet among those who live strictly upon and from the land, a large portion with difficulty hold their own. Ride in whatever direction you may, work to be done stands prominently before the eye. One may go a long distance without meeting a single improvement in progress. Here and there may be seen a new house or barn, but these are as often erected because the old one is tumbling down, as from the pressing necessity of enlarged

accommodations. This is a day for the adoption of farm machinery, yet few are found who are preparing their land to work it advantageously. There seems to be a general waiting for inventive genius to turn out something that can of itself overcome all obstacles in our small, rough, and many-sided fields. The number of apple trees reported, 294,184 may have surprised you; indeed, you hear farmers say apple culture has been carried to an excess in this County, and does not pay, but you find few orchards that could possibly take the Society's premium. A large portion of the trees are along the road side, by division walls, scattered here and there about the fields, exposed to the full blast of every wind, in the way of mower, rake, tedder and plough; while many are past maturity or in premature decline from neglect or bad culture. Such as they are, there are not two trees to an inhabitant, and if the population increases, and trees decline at present rates, we shall soon import largely of winter apples, even in fruitful seasons. You may talk about the markets, and the fact that a large portion of our citizens would be obliged to migrate or starve if limited to the present products of the County, excites no surprise, nor does it appear to create any enthusiasm for raising more to sell. You notice many farms for sale, and only now and then a purchaser, and you seldom meet a young man who has an earnest desire to become a farmer. Land, where there is no expectation of selling for houselots, independent of the increased cost of buildings, does not sell for much more than it was worth forty years ago. Perhaps no one thing awakens more surprise, as you approach a large city or town, than the amount of waste and poorly cultivated land in its immediate vicinity. Enter those cities

and you will find the inhabitants thereof depend on the hills and valleys of Vermont, New Hampshire and the Canadas, and the valley of the Mississippi, for their bread and butter, beef and potatoes, poultry and eggs, and provender for their horses.

But whatever may be the cause of the slow progress of our agriculture, there certainly are favorable circumstances for success. Our resources are only partially developed. The soil, if not inviting to a non-resident, compares well with other parts of the State—hard to work, to be sure, yet it seldom fails to repay well-directed labor, and a total failure of crops never occurs here as sometimes happens in countries possessing a richer soil and more genial clime. It comprises a large variety so intermixed that often three or four kinds are found on the same farm, and as varied a husbandry can be pursued here as it is expedient for one man to follow. None of our hills are so steep and rocky but that an Alpine herdsman would rejoice over the harvest he could gather from them. None of our wet lands are so wet but that a Hollander would make them produce bountiful crops. There is a mine of wealth in these runs, bogs, meadows and marshes, and only the requisite courage and experience are needed to develope their value. They can be made to pay as high a percentage as the prairie land of the West. One other advantage is our long line of seacoast, from which we can obtain marine manures. Sixteen towns are either directly upon or near by it. About 5-11 of the marsh mowing of the State is in this County, and more than half the hay cut here comes from our marshes and meadows and may be regarded as a free gift of nature.

But the greatest advantage of all is found in her num-

erous home markets. Already she has four cities and a fifth prospective which are situated along the borders, while towns and villages are so interspersed that few farmers are more than five miles from market. Every town is crossed once and often twice by a railroad, and were the local markets insufficient, the remotest farm is no further from Boston than many men in Middlesex and Worcester travel to market year after year. These markets afford opportunities for bringing back to the land the waste of the products sold from it. The County may be considered as in the position of a farm where all the crops raised are consumed upon it, and much more is bought and added to it; if a judicious use is made of its waste its fertility will be rapidly increased. The amount which can thus be added to our land is surprising. Allowing two bushels of wheat are bought for each inhabitant, it would require over 14,000 acres to produce it, yielding 25 bushels per acre. 10,000 acres will not produce the corn brought in; add to these what is required to produce the oats and other grains, the peas, beans, potatoes and meats we buy, hay, wood and other articles and the net products of at least 50,000 acres are annually brought in and consumed within our limits. To the waste of all these materials, add the fertilizers that may be obtained at paper and woollen mills, tanneries, soap works and other establishments, what can be dug from the bogs and gathered by the seashore, and who that attempts to estimate its value, will say that we have not the elements for rapidly improving our land?

Lest it be said that I am inclined to underrate the labors of the farmers of Essex, and that they are not doing as well as those in other parts of the State, let us make a few comparisons with the larger counties, the

smaller being omitted for obvious reasons. Essex has 22 per cent. of wood land. Six counties have the same or a smaller percentage; Hampshire the least, 13, while Bristol has 48, and Plymouth 68 per cent. Essex gives in 41 acres of unimproved land for every one hundred of improved; Middlesex 59, Norfolk 53, Bristol 59, Plymouth 65, Franklin 54, Hampden 53, Worcester 45, and Hampshire the least, 37. Proportioning the apple trees to the improved acres, Essex has one tree to every .41 of an acre; Middlesex one to every .39; Norfolk one to every .53; Worcester one to every .93, while the other large counties have not one tree to an acre of land. Essex reports the highest average in rye, is exceeded by three counties in corn, ranks the fourth in oats, seventh in English hay, ninth in barley, while ten counties exceed her in the average yield of potatoes. She had 319 acres in wheat—but two counties returned more. Had she cultivated six acres more of onions, she would have had as many acres as the rest of the State. About one-fourth of the land devoted to turnip culture was in Essex, and the same may be said of carrots. Worcester, where the dairy is made a specialty, does not keep as many cows as Essex, according to the acres of improved land. A comparison in the returns of 1855 would be more favorable for Essex, for since, she has fallen off in some crops in which other counties have gained. I am induceed to make a more extended comparison with Middlesex and Norfolk, since the advantages and interests of these counties have been similar, and since it has been claimed by Middlesex men that her agriculture was superior to that of Essex.

ESSEX.

Percentage of woodland,	.22

Number of Farms,	3.307
Average size of Farms,	57.4
Average value of land, including buildings,	$64.18
Average number of persons employed per farm,	1.6
Number of Farms without oxen,	1,039
Number of Cows and Heifers per farm,	3.9

MIDDLESEX.

Percentage of woodland,	.21
Number of Farms,	6,456
Average size of Farms,	63.9
Average value of land, including buildings,	$64.57
Average number of persons employed per farm,	1.5
Number of Farms without oxen,	2,059
Number of Cows and Heifers per farm,	3.9

NORFOLK.

Percentage of woodland,	.40
Number of Farms,	2,954
Average size of Farms,	61.4
Average value of land, including buildings,	$103.00
Average number of persons employed per farm,	1.5
Number of Farms without exen,	2,337
Number of Cows and Heifers per farm,	4.5

ESSEX.

Average nnmber of Sheep per farm,	1
" " Swine per farm,	2.2
" " Bushels of Corn per acre,	30
" " Bushels of Wheat per acre,	19
" " Bushels of Oats per acre,	23 1-2
" " Bushels of Rye per acre,	16
" " Bushels of Barley per acre,	17

MIDDLESEX.

Average number of Sheep per farm,	.41
" " Swine per farm,	1.5
" " Bushels of Corn per acre,	31
" " Bushels of Wheat per acre,	13
" " Bushels of Oats per acre,	21 1-7
" " Bushels of Rye per acre,	11
" Bushels of Barley per acre,	15

NORFOLK.

Average number of Sheep per farm,	.49
" " Swine per farm,	2
" " Bushels of Corn per acre,	28
" " Bushels of Wheat per acre,	9 6-7
" " Bushels of Oats per acre,	20 6-7
" " Bushels of Rye per acre,	15
" " Bushels of Barley per acre,	16

ESSEX.

Potatoes—Bushels per acre,	78
Pear trees cultivated for Fruit,	63,023
Acres in Market Gardens,	468
Acres in Carrots,	127
Acres in Turnips,	750
Acres in Onions,	413
Acres in Cabbages,	263

MIDDLESEX.

Potatoes—Bushels per acre,	82
Pear trees cultivated for Fruit,	106,401
Acres in Market Gardens,	2,340
Acres in Carrots,	109
Acres in Turnips,	430
Acres in Onions,	76
Acres in Cabbages,	297

NORFOLK.

Potatoes—Bushels per acre,	80
Pear trees cultivated for Fruit,	65,866
Acres in Market Gardens,	255
Acres in Carrots,	79
Acres in Turnips,	187
Acres in Onions,	58
Acres in Cabbages,	156

ESSEX.—English Hay, fraction of a ton per acre,	.97
MIDDLESEX.—English Hay, fraction of a ton per acre,	.94
NORFOLK.—English Hay, fraction of a ton per acre,	.98

ESSEX.—Meadow Hay, fraction of a ton per acre,	.83
MIDDLESEX.—Meadow Hay, fraction of a ton per acre,	.86
NORFOLK.—Meadow Hay, fraction of a ton per acre,	.72

The foregoing will, I trust, give some idea of the progress and present condition of our agriculture, and what it is doing towards furnishing food for the population. What can be done, depends entirely upon the rapidity and ability that are manifested in developing our resources. The future is bright if its advantages are improved. Nothing appears to be wanting to ensure success, but courage, perseverance, patience, industry and knowledge. A well organized Society, supported by efficient and practical men, has labored for fifty years to encourage this work. There are examples of individual success in our midst to emulate. There are the near and ready markets, continually needing more and more; to stimulate. Only give our manufacturers quick sales, and however narrow the margin for profit, the hum of their machinery will be heard. Cannot our farmers do likewise? Defying competition from West, South and North, let the hum of their machinery be heard, and the cheering signs of progress be seen on every hill and in every valley until every acre in the County shall produce its full quota of sustenance for the rapidly increasing population.

HOW TO MANAGE THE HENCOOP.

BY GILBERT L. STREETER, OF SALEM.

It is the purpose of the following essay to furnish, in a concise form, information concerning the details of managing the hencoop and poultry yard. The books upon this snbject are so burdened with useless, uninteresting and unreliable matter, that their value is diminished in about the same proportion that their bulk is increased.

Whether fowls are kept for pleasure or profit, it is alike important that they be properly cared for. The same conditions of health and vigor which cause fowls to lay well, to breed successfully, and to grow fat, also promote the symmetrical development of their bodies and preserve the freshness and beauty of their plumage. Probably fowls are usually kept for pleasure and profit both, for show as well as for use. The care of the flock is one of the little gratifications of the farmer's family, and it is, perhaps, even a more agreeable task to the "dusty citizen," longing for the pleasure of rural pursuits, who rears his choice breeds as a slight indulgence of his taste for country life. The pleasure thus derived

is justly considered as one of the advantages of keeping fowls, to be added to the net gains of eggs and chickens.

But the chief motive of the poultry raiser is the pecuniary profit to be derived from it, and without this stimulant we may be pretty sure that the hen-house would be far less popular than the dove-cote, the bird-cage, or the dog-kennel. But with care and attention the raising of poultry may undoubtedly be made to pay as well as most investments of this nature, and perhaps better than most of the incidental pursuits of farming. And without care and attention, neither this nor any other pursuit can be followed with success. There are no very accurate statistics upon this subject, but a comparison of numerous statements which have been published in agricultural reports and newspapers, warrants the estimate that a flock of hens, under economical management, will yield an annual profit of from one to two dollars each. Doubtless a few choice hens, properly kept and carefully nursed, will yield a larger relative income than a great flock kept indifferently well. Of course such gains cannot be made upon fowls bought at fancy prices, such as prevail during "hen manias." Those who, fifteen or twenty years ago or more, paid from $25 to $50 a pair for the enormous and ungainly birds then imported from foreign stocks, did not look for remuneration. Nor do those who to-day pay absurd prices for Crevecoeurs or Houdans. In 1854, at an auction sale in England, a single Spanish hen brought $55, and a lemon-colored hen, $77, and a cock, weighing 13 lbs., brought $215; but these foolish purchases were not made for profit, but to gratify a whimsical excitement.

Quality of Stock.—Our American poultry has been

greatly improved within a few years by the general introduction and extensive intermixture of the larger Asiatic breeds. Not profitable in themselves, the Indian and Chinese varieties, by crossing with our common fowls, produce what experience has proved to be the best stocks for our own country. The Shanghaes, and Chittagongs, Cochin Chinas, and other gigantic and awkward birds, have justly fallen into disrepute. They are monstrous eaters, and their flesh, besides costing more, is coarse and strong in flavor. Although their eggs are large, they are considered to be of inferior character. The eggs of the large breeds have often pale yolks, and it is contended that the highest colored yolks, which are usually found in the smaller eggs, have the finest taste. It is an admitted fact that the eggs of the Bantam hen, the smallest of all, are of unequalled delicacy.

But the commingling of the strong foreign blood with our domestic stocks has tended to hasten the maturity of our fowls, to increase their size and weight at a given age, and to increase the number and size of their eggs. It is estimated that chickens derived from a crossing of the Asiatic and American bloods, will, with proper care, begin to lay in four and a half or five months, on an average, and that the cocks will, at that time, give a dressed weight of from five to six pounds. The weight of the Asiatic breeds, at maturity, is usually, of cocks, from ten to thirteen pounds, and the hens, about two pounds lighter.

Select Varieties.—When select varieties of fowls are kept, it is a good plan to have at least two breeds, one to lay and the other to sit, for those hens which lay abundantly are not in general disposed to sit well. The

"everlasting layers" are not at all broody, and cannot be relied upon either to hatch or rear chickens. On the other hand, those that are much inclined to sit, and consequently confine themselves closely to the eggs, and prove good mothers, are not the most prolific layers.

For *laying hens*, there is no breed superior to the *Black Spanish*. They lay abundantly, and produce a very large egg, while the fowl itself is of medium size and not a great eater. Their eggs will weigh from two and a half to three ounces each, and they will lay a greater weight of eggs annually than any other fowl unless it be the Leghorns. The *White Faced Spanish* is the purest variety. It has a clear white face, a full breast, large single serrated comb, long pendent wattles, (apt to freeze in winter) and beautiful black plumage, and is an attractive bird. Mr. Richardson, author of an English work on "Domestic Poultry," says: "The Spanish is one of the very best birds with which I am acquainted. It possesses flesh of the best and whitest quality, and acquires it with rapidity, which is a most important consideration to the producer; and the hen lays a large egg."

The Black Spanish is very popular in England, where it is known as the "Gentleman's Fowl." It has acquired an equal reputation in this country, as an early and everlasting layer, early maturing, seldom or never desiring to sit, and usually healthy. The objection to this fowl is that its wandering and fly-away propensities render it annoying in a neighborhood.

For *sitting* the common native fowl may be recommended, or the *Brahma Pootra*. The latter is a very broody bird and sits remarkably well, but, being clumsy, must be looked after when the chickens hatch, lest she

crush them with her feet. The Brahma Pootra is also popular as a good layer, producing a large egg about the size of the Black Spanish, and of the yellowish hue common to eggs of the Asiatic breeds. The flesh of this bird is good also. Although large, it is not gigantic in size, nor is it awkward in appearance. It matures slowly, and unless forced, the chickens will not lay in less than eight or nine months. It is a great eater, but will accept any kind of food. It does not incline to fly, nor to wander abroad, nor to scratch much, and it is therefore a good breed to keep in enclosures in town. The color of this fowl is white, with a mottled neck; its comb and wattles are small; and it is hardy and able bodied. This variety is at the present time more popular than any other, and, perhaps, deservedly so. One great merit of the Brahmas is their peaceful disposition—an entire absence of pugnacity.

The *Dorkings* both lay well and sit well, and where only a single kind is desired can be recommended. The pure variety is speckled. Its name is derived from a town in Surrey, in England, and in that country it is considered the best of fowls. It is plump bodied, large, white fleshed, matures early and lays large eggs abundantly, although in this respect it is not equal to the Spanish. And it may be here stated that the Dorking and the Spanish make a good cross.

The *Bolton Grey* has enjoyed some reputation as a laying hen, although the eggs are small and they mature slowly. But it has an odd habit of dying suddenly, without any apparent cause, and for this reason it cannot be recommended. "You go into the coop (says Mr. J. J. H. Gregory) and find one of your finest fowls on the nest for two or three days in succession with a comb

rather unusually red; (now this redness of the comb is a certificate presented by other fowls that their internal egg-producing apparatus is in full working order) and you tell John that, 'really that Bolton Grey hen does beat all in the poultry line that was ever heard of, seen, or read of; indeed, you more than half believe she is but a mass of eggs slightly covered with feathers.' John, filled with respectful admiration, approaches the prodigy with stealthy steps, looks closely, and—proclaims her dead"! This has been our own experience.

The *Bantam*, although the smallest of breeds, is pleasant to keep on account of its smart, gay, and sprightly habits. The best variety, Golden Sebright, is named after Sir John Sebright, an English fowl fancier. The Bantam will often weigh not over one pound. A six months old Bantam hen was exhibited at the Essex Fair, in 1860, which weighed only six ounces. These little birds lay well and sit well. Their eggs are delicate, and weigh from ten to fifteen to the pound. At a show in London, in 1847, five Bantams sold for about $250, or $50 each! The breed is of Asiatic origin.

The *Leghorn* fowls, in their general characteristics, are almost precisely like the Black Spanish, and some maintain that they are an accidental variety of that sort. They are clear white, with beautiful pendent wattles, large serrated comb, of spirited bearing and handsome carriage, shy, wild, hardy. They are unsurpassed layers; they do not incline to sit until the second or third year; they mature early, commencing to lay in four or five months. Their young are hardy and advance with rapidity. The flesh of the Leghorn is white and excellent, but the bird is only of medium size and not profitable to raise for market. The Leghorn requires pretty warm

quarters in winter to save its comb and wattles from freezing, and causes trouble by its nervous restlessness. Apart from these peculiarities we know of no better fowl to keep.

Of the new French Fowls now so much sought after by amateurs, without regard to cost, we have had no experience. It is said that La Fleche, Le Crevecoeur, and the Houdan are wonderful layers, besides being in all other respects excellent. How they may develope their qualities in this country will soon be determined by experiment. Meanwhile we have only noticed the leading varieties of established reputation in this vicinity.

The Coop or Henery.—The thing of first importance to be attended to in the keeping of fowls is to have a suitable house for their accommodation. However much care may be taken in the rearing and feeding of fowls, the results may be wholly unsatisfactory unless the coop is convenient and comfortable. And the general conditions of convenience and comfort can be complied with in a common, cheap coop, nearly as well as in an expensive henery.

In the first place the hen house should be *dry*. It should be warm and dry in winter, and cool and dry in summer. There should be no standing water or wet places in the coop, or anything to occasion much moisture, like sink drains or emptyings. It is very injurious to fowls to get a wet chill. Even the cold of winter, when dry, is less prejudicial to their health, than dampness in warmer weather. They should not be exposed to long summer rains, but should have a ready shelter from such exposures.

It is well to have an enclosure where the fowls can

scratch in the gravel, and a hen house (with a floor) connected with it, which they can enter at night or in stormy weather. This house should contain large windows or glass sides to admit the sun in winter, and it will be better if it can face the south, and be protected on the cold side by some other building or warm structure.

But if this henery should be warm in winter, it also should not be too warm in summer. It is therefore necessary to have some simple means of ventilation, and this should be at the top if possible. Drafts of air across the hen-house should be avoided, as they are injurious to the birds.

The hen-house should be kept clean always, and if possible, sweet. All stinks are unwholesome to fowls, and it is not good for them to roost over accumulations of their own excrement. It is a good plan to place under their roosts, say two feet down, a gutter made of two boards, each six or seven inches wide, and nailed together at the edges. The excrement will lodge here and may be scraped out every day or two, dried in the sun, and then put into a barrel for sale. If the dung is put in a barrel fresh it becomes offensive, and, in warm weather, maggoty. The hen-house should be frequently and thoroughly whitewashed to keep off and destroy lice. This is indispensable.

The roosts should be made rather large and somewhat rough to help the grasp of the fowls. Poles covered with the bark are good. The heavier and more clumsy birds, like the Brahma Pootra variety, like to roost on a board, say four inches wide, and not over eighteen inches from the floor. The lighter and more active sorts will go as high as they can get. But there should be small ladders, or boards with cleats, for the fowls to walk up on,

as in flying high they are apt to fall and break their eggs or do other injury.

The nests should be low and approachable by similar easy steps, and so constructed that the hens shall not need to fly down roughly upon the eggs, with danger of breaking them, but be able to step on easily. Common square boxes serve very well as nests, and there should be three or four to each half-dozen laying hens. The surface of the hay in the nests should be as high as it can be without danger of the eggs rolling out, and should be concealed from view as much as possible. For setting hens it is well to place dry earth in the bottom of the nests below the hay. The earth serves to keep an equitable temperature, and the little moisture arising from it seems to be favorable to the process of hatching.

Fowls should always have a place to scratch in, and in absence of a better provision for this purpose, a box of earth, fine sand, or wood ashes, may be placed in the coop and frequently renewed.

For the convenience of access all parts of the coop should be easily approachable so that it may not suffer from the want of frequent and proper cleanings.

However large a henery may be, it is recommended that the various apartments should be of moderate size, and it is a good plan to provide separate quarters for each variety of fowl. This will preserve the purity of the breeds, and, as small coops are thought to be favorable to the hens' laying, it may be economical also. In winter, a good many hens may be kept in a small place, with the advantage of comfort caused by the animal heat of their bodies, provided that the atmosphere be not contaminated by offensive accumulations of dung.

Food.—The appetite of fowls is so nearly omniverous, and their usual food so well known, that not much description is necessary. In general, they are fond of all sorts of grain, most of the wild and succulent vegetables, insects and worms of nearly all kinds, and flesh, both raw and cooked, not excepting the flesh of their own kind.

Oats, corn, barley, buckwheat, rye, millet, rice, sunflower seeds, and many other varieties, are readily devoured, although with different degrees of fondness. Careful experiments have shown that as to bulk or measure, there is not much difference in the daily consumption of grains, and it is therefore best to provide those sorts which are cheapest, taking care to furnish a suitable variety. The kinds which the fowls may prefer, for tastes differ among the biddies as well as among humans, will be best determined by experiment. Good economists find that grain food goes further when boiled, except oats, buckwheat, and rye, which are not much swelled by cooking. Sunflower seeds are said to be particularly good for fattening. Corn is composed largely of starch, which is a fat-producing element, and is deficient in the nitrogenous substances of which eggs are made. Hence hens fed too much on corn, lay on fat, but do not yield eggs. Oats and animal food, on the other hand, yield the egg-forming materials, and will promote laying, but will not fatten. A laying hen, of course, should not be fat.

Of green vegetable foods, the leaves of cabbage, lettuce, and spinage, are preferred, but in the season of grass and chickweed, there is nothing better than these. Boiled potatoes, mashed, and given warm, are an excellent stimulant, and much used by the French poulterers

in fattening. Potatoes mixed with Indian meal we have found to be good, and all the bits of bread, boiled vegetables, etc., from the kitchen, are acceptable.

Give Meat.—The avidity with which poultry devour worms and insects, is a matter of common observation. Mr. Reaumur, the distinguished French experimenter, fed a hen entirely on worms for a fortnight, and she seemed pleased with her fare, and grew fat. At first she eat a pint a day, then increased to a quart, and then to nearly three pints. In the winter, or when the fowls are confined, and such food cannot be had, they should be supplied with bits of meat, fish, or fat, to supply the drain on their system of constant laying. They will eat meat, either raw or cooked, without much preference. Fresh fish scalded may be easily cut up for their use, and will be eagerly eaten. They are fond of blood, and when a companion is wounded, will peck at the wound to procure the blood, and even when wounded themselves, will drink their own blood, if they can reach it.

All *salted* food should be carefully avoided, and also the throwing of bits of salt from the table into the coop, which may prove fatal, and is a frequent cause of sickness.

Feed constantly.—The crop and stomach of poultry are so formed that it will answer to feed them once, twice, or three times, a day, but it is better to keep food before them *all the time*. They should at all events have a chance to fill their crops *before going to roost for the night*. If food, say a mixture of oats, barley and corn, is kept before them all the time, in a feeder so contrived that they cannot waste it, they will not eat much in the early part of the day, but will fill their crops just at night. Fowls are not such greedy eaters as might be

supposed by any one who should see them fed only occasionally. An English writer estimates that a common-sized fowl will eat a quarter of a pint of oats, or barley, a day, and voracious fowls, of large size, a third of a pint.

Laying.—To promote laying, in the winter season, an abundance of warm, stimulating food should be furnished, in good variety. The fowls should have constant access to *gravel*, to promote digestion; to fine *sand*, in which to cleanse themselves and remove lice; and to old mortar, lime, pulverized oyster or clam shells, ground bone, or chalk, to furnish the material which aids in the formation of egg shells. These things may be kept in boxes if necessary.

Water should be always handy, for fowls frequently suffer from the want of it. If it can be so managed in winter that the fowls shall not dip their gills in it, those parts may be saved from freezing while wet. The lack of clean and fresh water, in connection with too constant feeding on grain, causes costiveness, and in such cases, water, warm vegetables, and meat, may be given as correctives.

To promote good laying there must be careful feeding, amounting almost to nursing of the flock.

Hens lay a larger number of eggs during the first two years than ever afterward, and from the second year steadily decline. Cocks reach their greatest vigor in their second year, and careful breeders change their male birds every season, the time of moulting being chosen to separate the old ones and introduce the new comer.

Soft Eggs.—When soft-shelled eggs are laid, it indicates too high feeding, too much meat, and an insufficiency of lime, and as a remedy, the quantity of stimulating food should be diminished, which will usually be

effectual. But if the trouble continues, a little chalk may be mixed with their water, and some recommend a little brick dust in their food. The want of materials for the proper formation of shells, sometimes causes abortion, and results in the death of the hen while laying. The liability to this is increased by eating too much meat.

How Many Hens to Keep.—We know of no method of determining the number of fowls that may be kept with profit. This must depend upon the extent of your accommodations, the range which can be given them in summer, and the amount of waste food which can be furnished by the family or otherwise, without the cost of buying.

The number of hens to be kept with one cock is a matter of considerable difference of opinion. Some recommend as many as twenty or twenty-five, which is the practice of poulterers in the warm climate of France. But this is too large a number for this country.

If the purpose is to breed strong and healthy chickens, a less number of hens should attend a single cock, than when the production of eggs is the sole object, without regard to breeding. Our experience would lead us to recommend that for the rearing of strong chickens, from four to five hens to a cock is enough, while for the production of eggs, the number may be increased to ten or twelve.

Hens will lay unattended by a cock, and unimpregnated eggs have this advantage, that they will keep fresh for a much longer time than those which contain a a germ. But hens unattended will lay a less number of eggs, and with irregularity and uncertainty.

Sitting.—The selection of eggs for sitting requires much care if you wish to ensure the best results. The

freshest eggs should be preferred, for it is much better to keep the hen waiting for the eggs, than the eggs waiting for her. Those from a pullet, from one to two years old, matched with a cock of two or three years, will be the surest to produce strong chickens. If the eggs are too old, the chickens may not have strength enough to get out of the shell, or if they do, will be feeble, and likely to be trodden on and killed by the hen. One test of eggs is, to put them in a bowl of tepid water, and those that do not sink to the bottom should be rejected.

In about five days after the hen commences her sitting, it is well to examine the eggs in order to see whether they are all good. By holding the egg between the thumb and finger, and looking through it at a strong light, some will be seen to be semi-transparent. Such eggs contain no germ, and will not produce a chicken. They are not spoiled, however, for it is a curious fact that these unimpregnated eggs resist corrupting influences for a much longer time than those which are fertile. They may therefore be taken out of the nest and used in the family.

The Nest.—The nest for a sitting hen should be made flat, like a plate, and not hollowing and deep, for there is danger that she may step down upon the eggs and break them, or may crush the chickens as they hatch. It is well, as we have said, to put a little earth below the hay, as it tends to preserve a regular temperature and seems to exert a favorable influence upon the shell.

If an egg is accidentally broken it should be removed, and if the others have been soiled they may be carefully washed in warm water, but this must be done with extreme tenderness so as not to jar the egg.

Food and fresh water should always be kept near the nest of a sitting hen, lest she should stay away from the eggs too long, when she comes off for food, or on the other hand, should sit too long at a time for the want of food where it will be handy. A box of earth for her to scratch in should also be near by.

Brooding.—Some hens will sit so closely that it is necessary to take them off by hand, which may usually be done, in a quiet and cautious manner. We have found no difficulty in handling hens in this manner, and it is a practice which promotes their health and vigor.

It is impossible to have much success with the hatching of chickens unless some care is taken to have every thing in and about the nest, and its patient occupant, in proper condition. There must be more or less nursing, especially when the chickens begin to come out.

With suitable treatment chickens may be successfully raised from the first of March until August. Before this period a nest of eggs and a brood of chickens causes too much trouble and expense, and after July cool weather comes too soon for the endurance of a brood raised at that time.

Sex of Eggs.—Some writers have undertaken to determine the sex of eggs, which would certainly be a great gain to the fowl fancier, as he might then fix the proportion of his laying hens before incubation. But all indications are uncertain, and not to be relied upon. M. Genin, in an address before a scientific society in Paris, states, that eggs containing a male germ are of elongated form, with a partially raised or ringed surface around the small end of the shell, while the female germ is smooth and more equally of a size at both ends. As a

matter of curiosity it is well enough to test this rule by experiments.

Hatching.—The chickens should hatch in due course on the twenty-first day, and the nest should receive a good deal of attention about that time. The state of the weather often makes some difference in the time when the chicks break out of the shell. The duration of the process is also variable. Some chicks will disencumber themselves of the shell in one hour, and others in two or three hours, but it is generally a pretty good half-day's work.

Ears accustomed to this operation readily detect the approaching birth of the chicken by his "gently tapping, tapping at the door" of his cell, to break the first little hole. Sometimes the shell is too tough and the occupant needs to be helped out. If the chick stops its efforts to get out for five or six hours, it is well to liberate it by breaking the shell. This must be done very carefully, first, by making a small circular fracture, such as the chick makes, and then replacing the egg under the hen. If this does not answer, and the chick adheres to the shell within, the shell must be delicately broken, and, by the use of a linen rag, wet in warm water, the chicken must be disengaged, or unglued, from the pieces of shell to which its feathers are sticking, by dissolving the glutinous substance which confines them.

The Chickens.—We have found it best, with some hens, to remove the chickens as soon as they are hatched, and place them in wool, in a warm place, rather than to risk their being crushed by the hen. They need no food for several hours, say twenty-four. It is very necessary to keep them dry and warm, and they may be buried in wool for this purpose. It is well also to keep the hen

away from the earth for several days, until the chickens gain strength enough to keep from under her feet when she moves or scratches. They should be provided with fresh water in pans so arranged that they shall not get wet; nor should they be exposed to the rain; nor permitted to wander in wet grass, for it must be remembered that nearly all the diseases of gallinaceous fowls arise from cold and moisture.

The first food of the chicks may be bits of soft bread, Indian meal and oatmeal mixed, hard boiled egg chopped fine, soft boiled potatoes, and by-and-by cracked corn. Too much watery food should be avoided. Some poulterers think that Indian meal dough is too cold and indigestible for young chicks.

When the hen goes to roost and weans her brood, they will generally go with her. If they do not, they should be put with chickens of their own size until they are old enough to roost. But it may be noticed that when large and small chickens are mixed the former are apt to crowd the latter away from their food and otherwise to abuse them.

Diseases.—The diseases of fowls are obscure in their character, and very little that is satisfactory can be said upon this point. It is much easier to prevent disease in fowls than to cure it. Most of their troubles seem to originate in damp and cold exposures and improper diet. Therefore to keep fowls in health they should be provided with clean and well ventilated houses, free from cold, damp drafts; they should be regularly fed with a variety of things, and should be constantly supplied with water and gravel. But in spite of all care they will sometimes mope, sicken, and die. When a fowl shows signs of sickness it should be immediately set apart by itself, to avoid

contagion, to save it from being picked by the well ones, and to apply remedies. Oftentimes cures can be effected by placing sick hens in the sun, or near a stove in the house, for heat seems to be one of the sovereign remedies in the gallinaceous kingdom. If more than this is necessary, there is no other way than either to kill the fowl forthwith, or to look for its symptoms in some book upon the subject, and apply the remedies there indicated.

Dr. *E. H. Payson, Treasurer, in account with the Essex Agricultural Society,* *Cr.*

1867.			1867.		
October, To balance of former account,	$983 32		October, By amount of premiums and gratuities awarded by the Trustees,		$1124 00
To receipts of Exhibition at Haverhill,	2125 60		By Expense Account, as follows :		
To Bank Dividend for October,	374 20		Exhibition,	$1635 40	
Dec. 7, To State Bounty,	600 00		Secretary,	100 00	
To New Members,	132 00		Printing,	395 00	
Jan. '68, To Railroad Coupons, nett	19 95		Rent,	25 00	
To Bank Dividend,	70 00		Advertising,	7 00	
Apr. 25, To Treadwell Farm Rent,	250 00		Scholarships,	200 00	
To Bank Dividend, April,	410 50		Books for Premiums,	29 33	
July, Railroad Coupons, nett	19 95		Postage, expenses, etc. paid by Sec'y,	56 84	— 2448 57
To Bank Dividend,	70 00		By U. S. 5-20 Bond		556 25
To Cash from Gen. Sutton, for prem's and gratuit's,	90 00		By balance,		1155 45
To Unclaimed Premiums	138 75				
	$5284 27				$5284 27

Funds belonging to the Society.

16 shares Warren National Bank, Peabody,	$1595 40	Amount brought up,	$10,785 56
8 shares National Exchange Bank, Salem,	800 00	Amount of Cash on hand, as above	1155 45
14 shares First National Bank, Salem,	1402 66		
5 shares First National Bank, Danvers,	375 00		$11,941 01
12 shares Mercantile National Bank, Salem,	1226 50	Funds on hand, 1867,	11,224 88
23 shares Merchants National Bank, Salem,	1189 50		
2 shares Salem National Bank, Salem,	200 00	Gain in 1868,	$716 13
15 shares South Danvers National Bank, Peabody,	1471 25		
42 shares Asiatic National Bank, Salem.	1281 25	The whole charge against the Treadwell Farm to date is	$684 28
Essex Railroad Bonds,	700 00	The whole charge against the Colman Library to date is	$719 22
U. S. Bond, cost and premium,	544 00		
	$10,785 56	E. E. Salem, October, 1868.	E. H. PAYSON, Treasurer.

Salem, November 19, 1868. The unde signed has examined the above account, and also the state of the funds of the Society, (showing a balance on hand of $1155.45,) and find the same correctly cast, and well vouched.

WILLIAM H. FOSTER, Auditor.

OFFICERS OF THE SOCIETY,

FOR 1868-9.

PRESIDENT.

WILLIAM SUTTON, of Peabody.

VICE PRESIDENTS.

LEWIS ALLEN, of Peabody.
DAVID CHOATE, of Essex.
JOSIAH NEWHALL, of Lynnfield.
JOHN KEELEY, of Haverhill.

TREASURER.

EDWARD H. PAYSON, of Salem.

SECRETARY.

CHARLES P. PRESTON, of Danvers.

HONORARY TRUSTEES.

JAMES H. DUNCAN, of Haverhill.
JOHN W. PROCTOR, of Peabody.
ALLEN W. DODGE, of Hamilton.
JOSEPH HOW, of Methuen.

TRUSTEES.

John I. Baker, Beverly;
Wm. B. Carleton, Haverhill;
Thomas J. Clark, Salisbury;
George Cogswell, Bradford;
John Day, Boxford;
Francis R. Edwards, Beverly;
James Flint, Middleton;
Wm. Foster, North Andover;
Alonzo B. Fellows, Ipswich;
J. J. H. Gregory, Marblehead;
Thos. P. Gentlee, Manchester;
Alfred E. Goodwin, Amesbury;
Jonas Holt, Andover;
Joseph S. Howe, Methuen;
E. G. Kelley, Newburyport;
James P. King, Peabody;
Thomas K. Leach, Topsfield;
Edward H. Little, Newbury;
George B. Loring, Salem;
Samuel A. Merrill, Danvers;
Sherman Nelson, Georgetown;
Isaac Patch, Gloucester;
Wm. R. Putnam, Danvers;
John Perkins, Lynnfield;
Calvin Rogers, W. Newbury;
Wm. A. Russell, Lawrence;
D. H. Stickney, Groveland;
Daniel J. Todd, Rowley;
David Smith, Newburyport;
Benj. P. Ware, Marblehead.

NEW MEMBERS—1867.

Benj. F. Butler, Gloucester;
Charles Butters, Haverhill;
Alonzo B. Fellows, Ipswich;
John B. Nichols, Haverhill;
Samuel K. Towle, Haverhill;
S. F. Appleton, N. Andover;
Samuel M. Currier, Haverhill;
James B. Foster, Peabody;
L. S. Ordway, Haverhill;
S. W. Wilder, Lawrence.

NEW MEMBERS—1868.

Rufus Adams, Newburyport;
Daniel F. Appleton, Ipswich;
T. K. Bartlett, Newburyport;
Robert Callahan, Andover;
George F. Mason, Andover;
Gorham Norwood, Rockport;
Chas. H. Nichols, Amesbury;
W. W. S. Oberton, Haverhill;

Fred'k J. Coffin, Newburyport;
James P. Cheever, Andover;
Wm. M. Cheever, Manchester;
H. W. Cheever, Haverhill;
George A. Dodge, Wenham;
Andrew Dodge, Beverly;
Francis R. Edwards, Wenham;
Orrin Foster, North Andover;
Tristram B. Fall, Ipswich;
H. M. Goodrich, W. Newbury;
Benj. V. Giles, Beverly;
William Huff, Newburyport;
Moses How, Haverhill;
C. H. Ireland, Newburyport;
William Lord, Salem;
William Maloon, Salem;
C. E. Morse, Bradford;
E. A. Mosely, Newburyport;
William H. Patch, Rockport;
D. A Pettingill, Topsfield;
Amos Pratt, Danvers;
L. K. Pemberton, Groveland;
F. W. Putnam, Danvers;
William B. Peart, Danvers;
John L. Robinson, Wenham;
E. P. Robinson, Saugus;
Isaiah A. Rogers, Ipswich;
Jabez Rowe, Rockport;
Geo. H. Sweetser, Saugus;
T. C. Shattuck, N. Andover;
L. N. Tappan, Manchester;
Geo. H. Tilton, Wenham;
D. M. Walker, Newburyport;
Asa Wade, Ipswich;
J. O. Winkley, Newburyport;
Alvah Whittier, Haverhill.

☞ Any citizen in the County may become a member by paying the sum of three dollars to increase the permanent funds of the Society, and he will receive a certificate of his membership from the Secretary. No fines or assessments are ever imposed. Members are entitled to the free use of the Library and a copy of the Transactions each year. All ordained Ministers of the Gospel residing in the County, and editors of newspapers, published therein, are entitled to the privileges of the Library.

List of Premiums, &c.

FAT CATTLE.

Charles Adams, Newbury,	1st premium,	$10
J. S. Reynolds, No. Andover,	2d "	8
Charles Adams, Newbury,	3d "	5

JERSEY BULLS.

A. B. Fellows, Ipswich,	1st premium,	10

AYRSHIRE BULLS.

Moses Colman, Byfield,	1st premium,	10
Asa T. Newhall, Newburyport,	2d "	5

SHORT HORN BULLS.

Ben. Perley Poore, West Newbury,	1st premium,	10

MILCH COWS.

Paul T. Winkley Newburyport,	3d premium,	5

HERD OF MILCH COWS.

Moses A. Plummer, Newburyport,	premium,	15

HEIFERS—THREE YEARS OLD.

F. Dane, Hamilton,	1st premium,	10
P. T. Winkley, Newburyport,	2d "	8
Eben Manson, "	3d "	5

HEIFERS—TWO YEARS OLD.

Moses Colman, Newbury,	1st premium,	$8
Daniel Plummer, Newburyport,	2d "	5
P. T. Winkley, "	3d "	3

HEIFERS—ONE YEAR OLD.

Joseph Kittredge, North Andover,	1st premium,	5
Jeremiah Colman, Newburyport,	2d "	3

CALVES.

Asa T. Newhall, Newburyport,	1st premium,	6

DRAFT OXEN.

Francis Dodge, Danvers,	1st premium,	12
F. P. Putnam, "	2d "	10
Sam'l Moody, Jr., West Newbury,	3d "	8
R. S. Bray, Newbury,	Gratuity.	6

DRAFT STEERS.

George A. Randall, Newbury,	1st premium,	8
Silas Little, "	2d "	5
Romulus Jaques, West Newbury,	Gratuity,	3

TWO YEAR OLD STEERS.

Alfred Kimball, Bradford,	1st premium,	5
Romulus Jaques, West Newbury,	2d "	4

YEARLING STEERS.

Paul T. Winkley, Newburyport,	1st premium,	4

STALLIONS.

Ezra P. Downing, Amesbury,	1st premium,	10
T. W. Quimby, "	2d "	8

BROOD MARES.

Francis Dane, Hamilton,	1st premium,	$15
Wm. J. Dale, Jr., No. Andover,	2d "	10
A. C. Morse, Haverhill,	3d "	8

FAMILY HORSES.

Plummer & Balch, Newburyport,	1st premium,	10
Eliphalet Griffin, "	2d "	8

FARM AND DRAFT HORSES.

Orrin Putnam, Danvers,	1st premium,	10
S. A. Merrill, "	2d "	8
Samuel Foster, No. Andover,	3d "	5

FOUR YEAR OLD COLTS.

Romulus Jaques, West Newbury,	1st premium,	10
Edward F. Knight, Newbury,	2d "	5

THREE YEAR OLD COLTS.

D. F. Appleton, Ipswich,	1st premium,	6
John Swinerton, Danvers,	2d "	4

TWO YEAR OLD COLTS.

Asa T. Newhall, Newburyport,	1st premium,	5
Daniel O. Weed, Amesbury,	2d "	3

YEARLING COLTS.

Elbridge Battell, Newburyport,	1st premium,	4
J. N. Rolfe, Newbury,	2d "	3

SWINE.

Moses Colman, Newbury, best boar,	1st prem.,	8
Joseph Longfellow, Newbury, 2d best boar,	2d "	5
Moses S. Little, Newburyport, best breeding sow,	1st "	8
Jere. Cashman, Newburyport, 2d " " "	2d "	5

COTSWOLD EWES.

Romulus Jaques, West Newbury,	1st premium,	$8
Jos. Kittredge, North Andover,	2d "	5

LOT OF LAMBS.

Romulus Jaques, West Newbury,	1st premium,	3

SOUTH DOWN BUCKS.

Joseph Kittredge, North Andover,	1st premium,	6

PLOUGHING—DOUBLE TEAMS.

R. T. Jaques and R. S. Bray, Newbury,	1st premium,	12
Joseph Goodridge, Newbury,	2d "	10
D. L. Goodridge, "	3d "	9
Edward S. Little, "	4th "	8

PLOUGHING—SINGLE TEAMS.

Richard T. Jaques, Newbury,	1st premium,	7
Thomas C. Ordway, West Newbury,	2d "	6

PLOUGHING WITH HORSES.

E. H. Little, Newbury,	1st premium,	10
Orrin Putnam, Danvers,	2d "	7
Samuel B. Hill, No. Andover,	3d "	4

SIDE-HILL PLOUGHS.

Samuel Moody, Jr., West Newbury,	1st premium,	10
Kittredge & Foster, North Andover,	2d "	8

BOYS' PLOUGHING.—Special Premium.

Albert B. Ordway, West Newbury,	1st premium,	25
Charles Fish, Danvers,	2d "	15
Eben Dodge, "	3d "	10
George W. Bray, Newbury,	gratuity,	8

AGRICULTURAL IMPLEMENTS.

Charles P. Preston, Danvers, Wood's two-horse Mower, premium,	$5
Samuel A. Merrill, Danvers, American Hay Tedder, premium,	5
Whitmore & Belcher, best Hay Cutter, premium,	3
S. M. Ayers, Boxford, best Ox Yoke, "	3
Fitchburg Co., Bay State Horse Rake "	5
J. S. Preston, Danvers, Raymond's Horse Pitch Fork, premium,	5
Parker, Gannett & Osgood, Boston, collection of Agricultural Implements, premium,	5
Parker, Gannett & Osgood, Boston, best Churn, gratuity,	2
F. F. Holbrook & Small, Harrington's Seed Sower, grat'y,	2

CARRIAGES.

George Adams, West Amesbury, Buggy, gratuity,	5
Dana Dodge & Son, Newburyport, Carriage,	3
Wm. B. Peart, Danvers, Express Wagon, "	2

BUTTER AND CHEESE.

A. F. Hobbs, Wenham, butter,	1st premium,	12
Daniel G. Todd, Rowley, butter,	2d "	10
Mrs. J. Longfellow, Newbury, butter,	3d "	8
R. S. Rogers, Peabody, butter,	4th "	5
N. W. Moody, Newbury, cheese,	1st premium,	8
Byfield Factory,	" 2d "	5

FARMS.

Samuel A. Merrill, Danvers, gratuity,	20

IMPROVING PASTURE LANDS.

S. B. Locke, Andover, premium,	15

ESSAYS.

James R. Nichols, Haverhill, premium,	10
Gilbert L. Streeter, Salem, gratuity,	8

Ben: Perley Poore, West Newbury,	1st premium,	$15
Allen W. Dodge, Hamilton,	2d "	10

Awarded by Committee on	Poultry,	$20.00
" " " "	Vegetables,	82.50
" " " "	Fruit,	162.50
" " " "	Flowers,	26.00
" " " "	Counterpanes, Rugs etc.,	35.00
" " " "	Fancy Articles,	47.00
" " " "	General Merchandise,	20.00
" " " "	Bread and Honey,	20.00
		$1,109.00

RECAPITULATION.

FARMS.

Amount awarded to		Farms,	$20.00	
"	"	Improving Pasture Lands,	15.00	
"	"	Ploughing,	149.00	
"	"	Farm Implements,	35.00	
				$219.00

FARM STOCK.

Amount awarded to		Fat Cattle,	$23.00	
"	"	Bulls,	35.00	
"	"	Milch Cows,	20.00	
"	"	Heifers,	47.00	
"	"	Calves,	6.00	
"	"	Working Oxen and Steers,	52.00	
"	"	Steers,	13.00	
"	"	Stallions,	18.00	
"	"	Breeding Mares,	33.00	
"	"	Family Horses,	18.00	
"	"	Farm and Draft Horses,	23.00	
"	"	Colts,	40.00	
"	"	Swine,	26.00	
"	"	Sheep,	22.00	
"	"	Poultry,	20.00	
				$396.00

FARM PRODUCE.

Amount awarded to		Vegetables,	82.50	
"	"	Fruits,	162.50	
"	"	Flowers,	26.00	
"	"	Dairy	48.00	
"	"	Bread, &c.,	20.00	
"	"	All other objects,	155.00	
				$494.00
		Total,		$1,109.00

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TRANSACTIONS

OF THE

Essex Agricultural Society

IN MASSACHUSETTS,

FOR THE YEAR

1869.

WITH THE

ANNUAL ADDRESS

BY

BENJAMIN P. WARE, Esq.

PUBLISHED BY ORDER OF THE SOCIETY.

PEABODY,
PRINTED BY CHARLES D. HOWARD, SUTTON BUILDING.
1869.

ADDRESS.

Mr. President and Gentlemen of the Society:

In addressing you to-day, I propose to notice briefly some of the leading topics of interest connected with the business of Farming. My remarks will be based mainly upon personal observation, made during my experience as a practical farmer. Within my remembrance, it was indeed a laborious task for a man to conduct the business of the farm successfully. He was expected to turn the double swath in the mowing field, to lead the hired men as they were desired to follow, to pitch on the hay, to hoe the hardest row—in short, to bear the brunt of the work. Great physical strength, and endurance, as well as good judgment, were indispensable. But now what a change! To lead the labor of the farm does not require great strength and power of muscle, but brains are called into requisition, and skill in the management of machinery.

The farmer while riding around his field on the mowing machine, hay tedder, or horse rake, may overlook

and direct those less skilled than himself, and at the same time accomplish the labor of ten men, with no more exertion than is pleasant for exercise. With Raymond's Hay Elevator he may stow away his hay in his barn with comparatively little labor and a great saving of time; but the farmer impatiently awaits the time when he may for his money obtain an improved hay-loading machine, so vainly sought by many of us.

The potato crop can now be grown entirely without hand labor. True's Potato Planter cuts the potatoe, drops, furrows and covers, at one operation. With Holbrook & Chandler's Horse Hoes, the labor of hoeing is wholly performed by horse power. By the use of the side hill plough, the harrow and the drag that any farmer can make in two hours, costing not more than two dollars for materials—than which no greater labor-saving implement has yet been invented for the farm—and with Willis' Seed Sower, the Danvers Truckle Hoe, all of the root crops can be grown with about one half the labor formerly required.

The changing of an inferior variety of apples or pears for a superior one, is now so simplified and made easy by the use of a liquid grafting-wax, applied with a brush, that no one need be without the choicest kind of such fruit, who has healthy vigorous trees of whatever size they may be. Nor has improvement stopped here. We need not leave Essex County to find that within a few years there have been introduced by skill and careful cultivation, the Hubbard Squash, the Stone Mason, and Marblehead Mammoth Cabbages, Emery's Early Cabbage, a superior early Tomato, and Lettuce, the Danvers Onion, all better, in some respects, than before existed; and to the list of fruits have been added Allen's

two hybrid grapes, and those of Mr. Rogers, possessing qualities superior to those of any others, while other parts of the State have added Dana's Hovey and Clapp's Favorite pears, the Concord Grape, and the President Wilder Strawberry.

Other fruits and vegetables might well be mentioned. The neighboring State of Vermont has made such vast strides in the improvement of the Potato as to cause those who have lived through the morus multicaulus, Rohan Potato and hen fevers, to stand aghast, waiting for the excitement to abate, to see if Bresee's No. 4 is really two hours earlier than the Early Rose. But all may be assured that great improvement has really been made in the potato. And yet there are persons among that numerous class who, because they lived upon a farm until seventeen years of age—and so, forsooth, "know all about farming"—are asking what improvement has been made in Agriculture?

Who ever heard, until within a few years, of seventy-four tons of mangel-wurzel being grown upon one acre of land; of thirty-six tons of carrots, or nine hundred bushels of onions per acre? Such crops as these are facts that can be proved. Such crops have been grown and can be grown again.

Several French and German chemists have estimated the value of English hay in comparison with other kinds of food for milch cows, and they make two hundred and fifty pounds of beet roots equal to one hundred pounds of hay. According to this estimate the above crop of mangolds would equal in value nearly thirty tons of hay; or supposing the chemists' estimate to be only half right, the root crop would then equal fifteen tons of hay per acre. It has been ascertained by actual experiment

that breeding swine can be kept upon raw mangolds alone from October to May, in good thrifty condition. Can any one doubt, with such facts, the great advantage of growing this and other root crops?

Various breeds of Foreign Cattle have also been thoroughly tested; and in my opinion the Ayrshire stock has proved the best adapted to our pastures, and for milking qualities, heads the list. Doubtless there are some specimens among our native stock as good as the best of any foreign breed for milk, but the native breed cannot be so generally relied upon; therefore the thanks of the farmers of Essex are due to the Massachusetts Society for the promotion of Agriculture, and to some private individuals for the introduction of that superior breed of cattle.

I think any close observer of the cattle pens at our exhibitions for the last twenty years will have noticed this fact: that any breed, of whatever size, will, within two or three generations become adapted in size and form to the locality and pastures in which it is placed, although retaining more or less of its own peculiar marks and qualities; hence the economy of introducing such breeds as correspond pretty nearly in size with our native cattle.

Although two years in succession of severe drought, which occurred four or five years ago, so weakened the fruit buds of the apple trees as nearly to destroy the crop of fruit, and the canker worm, with other insects, has since committed such ravages upon our orchards as to make the cultivation of the apple rather discouraging—yet, let us take heart. By the use of printers' ink and tarred paper, from November 1st to April 1st, at a cost of from five to eight cents per tree, our orchards can

be perfectly protected from the canker worm ; and by securing the small birds from the depredation of their natural enemies, idle boys, cats and crows, and with good cultivation, I feel sure that we may again be blessed with abundant crops of that beautiful, delicious and health-giving fruit. Thus we shall be enabled to return the compliment of presenting to our modern Eve the no longer forbidden fruit, and under such circumstances and conditions that we may realize that the Paradise once lost, is regained.

Who that has planted an apple tree, grafted, trained and cultivated it, protected and cared for it from its nursery growth to its orchard maturity, does not love it with a paternal love? With what pleasurable emotions he recognizes the friendly greeting of its gentle nod on a Whitsunday morning, as he beholds it, one mass of rose and lily blossoms filling the sunny air with fragrance, and listens to the soft murmur of delight issuing from its branches. As he stands thus, what man can avoid thanking his God for being allowed to aid in such a creation. And again in October, with what satisfaction he approaches his tree, with basket and barrels, to harvest those glorious pippins that hang so temptingly within his reach, affording ample means of profit, health and luxury. Who that owns an acre of land can afford to dispense with so much happiness as may be derived from an apple tree? Certainly no Essex County farmer. My own experience is that no part of my farm yields greater income for the labor expended than the orchard. If the crop is small, the price is usually large. Let us then continue to cultivate the apple as a source of profit, of health to our families, and of growth to our social natures.

Besides protecting our native songsters that do so much to aid the orchardist, I most earnestly recommend the importation of English sparrows, whose principal occupation is to feed their numerous progeny with insects. The experiment was tried in New York three years ago, and, proving very successful, led to the introduction of these birds last spring into Philadelphia. I know of no way by which a portion of the income of this society can be so profitably expended as by the importation of several thousands of these birds, to be distributed in different parts of the county.

It may be worth the notice of the curious observer, that of the several varieties of apple and pear trees, each grows with form and feature peculiar to itself, and varies as much as do the different kinds of fruit. No one familiar with them can mistake, for example, the Pickman Pippin, Ribstone Pippin, or Killhamhill, among apple trees, or the Winter Nelis, Louise Bonne de Jersey, or Rostiezer, among pear trees. So marked are their peculiarities, however different the stocks these varieties are grafted into, that the quality of the fruit (other things being equal) remains the same. It is also a well established fact that in nursery rows of seedling apple trees, budded at one year old, and taken up at four years of age, each row being budded with a different kind of fruit, the roots of the several varieties will be found to have taken different habits of growth: one variety will have numerous small fibrous roots, growing compactly, while another row of a different variety will have a few large and long roots, with few fibres, the varieties of fruit giving distinct habits of root, although the stocks may all differ from each other; this proves conclusively that the stock exerts no influence upon the variety of

fruit engrafted into it, but that the graft does have an influence in forming the habit of the roots of the stock. The same observer may with propriety ask, how is it that when two scions are engrafted into a limb of an apple tree, one will produce fruit, ripe in August, of yellow color and sweet flavor, while the other will produce fruit, ripe in January, of red color and acid flavor, both kinds nourished by the same sap, supplied from the same roots. Whence the difference?

I think this question can be answered by saying that the material of the fruit is supplied principally from the soil, through the roots, while the quality of it is derived from the atmosphere through the leaves. Hence, the idea of improving the quality of fruit by double working must be a fallacy.

Let me say a word of the tendency of the sons of farmers to leave the calling of their fathers. I knew a farmer who took his son, a lad of fourteen, into the field to assist him in setting out a young apple orchard. That boy obeyed his father's directions to the letter. If he told him to move a tree to the right or the left, to set it deeper or not so deep, he obeyed; no more, no less; but his heart was not in his work. That father saw and keenly felt his son's apathy. He said, "My son, I will listen to any suggestions you may offer with regard to the setting of these trees." From that moment the boy was changed. What! thought he, does my father wish for suggestions from me? And if so, should they not be made after careful thought and consideration, that they may be worthy of his attention? Thus he argued with himself; thus his mind was turned to the business of the farm; thus he learned to love it, and one boy was saved to the farm, whose mind was

already wandering off in search of some other business or profession.

Thirty years have since been added to that boy's life, passed in the various labors and experiences of the farm, and here, to-day, he rejoices in his early choice, and is proud of his vocation.

Fellow farmer, have not you a son that you wish should become a farmer? Encourage him to bestow thought upon the business; listen to his suggestions; if good, show him that you appreciate them; if not practicable, convince him of it. Put him in responsible positions according to his ability; teach him to manage farm machinery, to observe the growth of plants; give him an interest in the poultry, in a vegetable garden or in the cultivation of small fruits; a calf or a colt, to raise on his own account; and, above all, see to it that you teach him all that you know yourself about farming, that he may begin where you leave off; in this way, though he may have no greater capacity than you, much progress will be made in agriculture; do this, and there will be less complaint of young men leaving the farm for the counter.

Nor let the son's education stop here; although much of practical agriculture may be learned upon the farm, as well or better than elsewhere, yet there are some things that cannot be so learned. To be a farmer in the highest sense, he must have a good general education. I know of no profession or position in life, that opens so wide a field for the application of a thorough general education as that of the farmer. He will become somewhat familiar by his every-day business, with branches of geology, mineralogy, chemistry, botany, zoology, physiology, ornithology, entomology, meteorology, and other sciences, and the more thorough his knowledge of them, the bet-

ter able he is to apply their principles to his business. Let me ask, where can the young farmer so well obtain that education, as at the Massachusetts Agricultural College, an institution no longer an experiment, but a well established success, where modern literature and the sciences as applied to agriculture are well taught, and at a moderate expense.

The slow growth of agricultural knowledge has proved the necessity of scientific research and a practical experience joining hands. Neither can do without the other, but both united and working for the same end can make much greater progress. It is time all jealousies should cease. The scientific man may, from his profound learning, advance theories, but the practical man must work them out, and prove their truth or error. I believe that the agricultural college, with its noble farm, is especially adapted to bring about this concert of action; and no where else can our young farmers so well become acquainted with the results of science applied to farming.

Moreover, I know of no way by which the farmers can be so well and economically protected from unscrupulous manufacturers and venders of worthless fertilizers, as by having them there honestly and carefully tested, and their real value made known to the community without fear or favor. But few farmers can afford the time and expense for the necessary experiments, or have the ability to conduct them in a way to show fairly the comparative value of such materials. I trust that an especial effort in that direction will be made in that institution, established as it is by the bounty of the United States and of Massachusetts. I think we have a right to expect this work faithfully performed. It would do much to insure continued confidence and future support,

for the only institution dedicated to the cause of agriculture in the State. Let us therefore give the Massachusetts Agricultural College our encouragement, as I believe great good to our business will grow out of it.

To be a good modern farmer one must have mechanical skill, in order to manage well the various machines now used on the farm, to enable him to detect and remedy their faults and imperfections as they come from the hands of the inventors and mechanics. It has required years of experience and close observation to bring the plough, the mowing machine, and horse-rake to their present state of perfection. Who but the intelligent farmer that uses them, can so well suggest improvements? Scarcely an implement has been introduced, that has not thus been improved. The old couplet,

> "He that by the plough would thrive
> Himself must either hold or drive,"

may not be as literally true to-day as when Timothy Pickering took the first premium, at the first plowing match made by this Society, but it *is* necessary that he should be able to regulate the guage of the plough, and hitch the team properly, for but very few of the hired men of the present day can do it. If it is *not* necessary for him to do all the work himself, it *is* necessary that he should know *how* to do every part of it, that he may properly direct others.

The farmer to be most successful, must also be a merchant, and be well booked up in the prices current, and the state and prospect of the market, in the relation of the supply to the demand for his products, in order to know where, when, and how, to sell them, and also to buy his supplies to the best advantage. The farmer too, may, when master of his position, like the merchant and

manufacturer, employ hired capital in his business, and increase his profits thereby.

Yet, after all, does farming in Essex County pay? It is useless to preach the ennobling influence of the farm upon the human character, the independence of the farmer, or to cite the examples of Cincinnatus. Washington, Jefferson, Webster, and others to stimulate our young men, unless it can be shown that farming in this county pays; for no enterprising New England boy will be contented in a business that does not pay.

I need only to refer to the returns of the income tax to find instances where men by farming alone, have in this county returned annual incomes amounting to from three to five thousand dollars, enough to buy a good farm, with fair buildings. I could name an Essex County farm, of fifty acres, valued at ten thousand dollars, the gross products of which were enough in one year to pay for it. It was an unusual occurrence, but such was the fact for that year. Drive in any direction through the length or breadth of the county, and notice the comfortable homes, the thrifty appearance of the farms, and the contented looks of the occupants. Is the money market tight? they know it not; is gold up or down? it affects them not at all. Do the banks refuse to discount? they care not, so long as they have one of their own in the barn yard, or cellar, that never refuses. Do men lie awake nights, tossing upon restless pillows, wondering wherewith the note, falling due on the morrow, shall be paid? the farmer is not of them. While ninety-six of every hundred who enter mercantile pursuits become bankrupt, the farmer scarce ever does. I have yet to learn of the second instance. It is true there are many causes of discouragement to the farmer, some of

which are as yet, in the present stage of agricultural knowledge, entirely beyond his control, while others, by careful watchfulness, may be easily guarded against.

The canker worm, which has already been spoken of, the borer and caterpillar are the worst enemies of the orchard. The borer can easily be found by his chips, and probed to death with a wire, or limber twig peeled and pointed. The caterpillar's nests are readily seen when the trees first put out their leaves; the nests at that time are small, and a whole colony can be destroyed by a single pinch with the thumb and finger, provided you call upon them at proper hours. Until eight o'clock in the morning, and from twelve to two in the afternoon they are all at home; other parts of every pleasant day they are out foraging, and no man has any excuse for allowing his trees to be eaten by them. The small black fly is very destructive to young cabbage and cucumber plants, frequently destroying the whole crop in a single day. Air-slacked lime or ashes sifted on, are perfect remedies. The striped squash bug and a maggot are very destructive to the squash crop: air-slacked lime or ground plaster is easily applied, inexpensive, and an entire protection against the bug. By planting five seeds in a hill, there will usually be plants enough for the maggot, and two or three plants, besides, to grow, which are sufficient. To insure the seeds coming up readily, they should be stuck in the prepared hill, one inch deep, with the pointed end down; this will save them two days of severe labor in turning over to come up; a labor which in some cases is so difficult as to prevent their coming up at all.

Then we have the onion maggot, an enemy more difficult to deal with, very destructive to the crop in most

parts of the country; whole fields are frequently swept away by this pest, and the farmer's hopes with them. By closely watching their habits, it will be found that the onion maggots are the offspring of a small brown fly, that, when startled, will fly about six feet and alight. This fly deposites, either upon the young onion or upon a small lump of earth, from six to twenty eggs, which, within a few days hatch; the very small maggots then appear and immediately go down the young plant to the bottom where the roots branch off from its centre. Here the worm makes an easy entrance to the very heart of the onion, followed by others of different ages, until one plant contains twenty or more. There they are completely screened from view and all harm, while they eat out the life and substance of one onion, and then pass on to the next. This is their usual habit; sometimes they eat directly through the side of the plant, though not often. They pass through two or three generations during the summer, but the last in the fall, instead of turning to flies, remain in the pupa state during the winter, and all affected onions containing them should be destroyed.

Having learned so much concerning their habits, the question arises, how can our crops be protected? Gas lime and other offensive smelling substances have been tried in vain, for the mother fly seems to delight in them. For many years my attention has been directed to this subject, and I believe I have discovered a remedy. It is the common practice to cover onion seed one inch deep, and they will germinate better at that depth than any other; nearly all will germinate at two inches, while none will grow if covered three inches deep. I have found that by sowing the seed an inch and a half or two

inches deep, the young maggots fail to reach the bottom of the onion, where they expect to make an entrance; and so few attempt it at the side of the plant, that the crop is but little affected. I have tried this method for several years with success; it is important, also, to sow early, and to have the surface of the land highly manured, to give the crop an early and rapid growth in order that the plants may the sooner be too large to be affected by the few maggots that do succeed in making an entrance at the side.

The onion blight and smut, also the potato rot, are at times very destructive to those crops, turning the most promising fields, within a few days, to scenes of desolation. All, in my opinion, are caused by parasite plants of different varieties, growing upon and consuming the vitality of the onion and potato plants, and in the latter so poisoning the plant as to cause the tuber rapidly to decay. The onion smut, which has more of the character of a fungus plant, so impregnates the land with its spore, as to render it unsafe to plant onions for several years on land thus affected. The parasite that produces the onion white blight does not reproduce itself by seeding the land, but comes upon the crop at the period of its most vigorous growth, in a dry time, showing its effects perhaps in a small spot at first, but in case the dry atmosphere continues, rapidly spreading over the whole field. Two or three days give sufficient time to stop entirely all future growth of the crop, unless a change in the weather occurs unfavorable to the growth of this parasite. There is another kind of parasite equally destructive, that causes the black blight on the onion crop, similar to that which affects the potato, and requiring the same state of the weather to produce it that is necessary

to produce the potato rot. The parasite that causes the potato rot delights in a warm, close, humid atmosphere that frequently follows a rain. When a field of potatoes, planted either early or late, is in its most vigorous growth, just before the tubers begin to ripen, if such a condition of the weather then occurs, this parasite will be produced. The more dense the growth of vines the more liable to an attack, and it will commence in that part of the field where the growth is most vigorous, and will rapidly spread over the whole, unless a change in the weather takes place. Some varieties of potatoes are more susceptible to it than others. If the tops are cut close to the ground, when first attacked, the potatoes may be saved; otherwise, in a few days, they become more or less diseased, and decay rapidly follows, in which case it is better to leave the potatoes in the ground until those affected are entirely decayed. A portion of the crop may thus be saved, for if dug before that time the whole will be lost.

It will be seen from what has been said, that if you plant the rows wide apart, or alternate with some other crop, in order to have the vines more open, they will be less liable to an attack.

Many theories have been advanced, from time to time, as to the cause and prevention of these serious hinderances to the farmer's success; but none as yet have proved satisfactory. Every one, however, knows that under certain conditions mould, which is a vegetable growth, will certainly appear; that on a bank of earth and stable manure, prepared in a certain way, under suitable circumstances, mushrooms will surely grow. A pot of earth placed in mid-winter under the drip of a green house, will in a short time produce a very beauti-

ful variety of moss, and in a longer time a second variety will appear. Very many instances of like character might be mentioned, all going to show that certain conditions will produce certain vegetable growths.

I have endeavored to show that certain conditions of the atmosphere, at a certain stage of the growth of the onion, and the potato, will produce the parasites that cause the blight and destruction of these crops. I believe that at such times, when the known conditions are favorable for the production of these parasitic plants, some application may be made that would ward off their attacks, and save our crops. Here is a wide field for investigation and experiment worthy the attention of the scientific observer, and practical farmer. Let them work together for effectual remedies of these great evils.

Drought and excessive wet, also, at times operate very much against the farmer's success. The one may be partially remedied by frequent cultivation and hoeing, and the other by a judicious system of under-draining.

How is farming to be made most profitable?

First, let every farmer consider the locality of his farm with reference to the market for his produce; then the character of the soil, and size of the farm; finally his own taste should be carefully studied before deciding upon the kind of farming he will pursue.

Man is capable of governing nations, of commanding armies and navies, of the conception and construction of the most minute and delicate machinery, as well as the most ponderous steamship that ploughs the ocean. He has united the continents, so that the heart-throbbings of the one are felt throughout the length and breadth of the other. He commands the very elements, and they obey, and do his work, but no one man has done all these

things or any two of them. Neither can any one man conduct successfully all kinds of farming; life is not long enough to enable one to become an expert in all.

Darwin, the distinguished naturalist, declares that "apparently, it transcends the power of the human intellect to breed all kinds of fancy pigeons." How much more difficult for one mind to grasp and manage successfully all kinds of farming?

The farmer having chosen a speciality in accordance with the above principles, let him persevere in it, and he will certainly succeed, take one year with another, provided he pursues a system of high culture. For I know of no kind of good farming that does not pay well; while no kind of poor farming will yield more than a poor living. Nor should it. Of course, any man who is a man, and cares for the comfort and happiness of his family, whatever his specialty may be, will see to it that abundance of vegetables, fruits, small and large, milk, eggs and poultry are grown upon the farm, for family use; for these pay. He will see, also, that a suitable plat be carefully prepared, and that the women and girls of the family be amply provided with the means of stocking it with at least a few choice bedding plants, annual and perennial flowers and shrubs; for these pay.

Does he select the dairy or the raising of milk for the market, let him be sure and test the quality of milk from each cow, with a lactometer, and he will be surprised to find how mean some of his animals are. I have recently tested the milk from each of my six cows, and find that the milk of one yields only from one to eight per cent. cream, different milkings varying in quality, while the milk of the others yields from ten to twenty per cent. cream. I had every reason to suppose

the first to be a decent cow. But for the trial, I might have kept her for years, without knowing what poor milk she gave. Such milk is hardly fit to supply even the Boston market! Test yours I doubt not many of you have just such cows. The profit in raising milk depends upon the quantity of food a good cow can be made to consume. A poor cow should not be kept, for she affords no profit. Except in the season for pasture or soiling, hay, roots, shorts and Indian meal are fed to advantage in producing milk; meal should be given sparingly to young cows, lest they be injured by it. Old cows will bear a larger quantity. I once fed ninety bushels of meal to one old cow in one year, at a large profit. She gave twenty quarts per day the whole time, and became very fat for beef. A young cow would have been spoiled by such poor feeding.

If the growing of roots and vegetables be his choice, he should raise his own seed, unless he is sure of getting it of a reliable grower. For whatever may be his cultivation, a poor harvest will be the result of poor seed. The choicest specimens should be carefully selected year after year, that the seed may be *thorough-bred*. For the laws of selection and reversion are just as applicable to the growing of vegetables, as to the breeding of animals; and, generally speaking, the laws that govern animal and vegetable life will be found to be wonderfully alike. Therefore, let every farmer be sure and use none but thorough-bred seed, and that the centre of the top of all vegetables selected for seed be uninjured, for the sprout that issues from the centre is the only one that produces the best seed.

The seed from a turnip or a rutabaga that has had the top cut close, causing thereby the sprouts to issue

from the sides, will not produce good roots, but generally tops, with only a tap root of no value. But turnips designed for late keeping should have the tops pared close and the tap root cut off to prevent sprouting, which causes a turnip to become corky. Cabbage seed should never be grown from stumps, but from a sprout issuing from the centre of a perfectly developed head. A medium crop of vegetables, the result of three or four cords of manure per acre, may pay expenses; but it is the large crops, requiring from seven to twelve cords of well rotted or composted manure per acre, with clean culture that afford the profit. Green manure is wholly unfit for the culture of vegetables.

To illustrate the importance of high culture and thorough-bred seed, I will mention an instance that has come under my notice the present season. Mr. David Wentzell, of Salem, has two acres of onions, to which he applied fifteen cords of muscle martial of the first quality, and twenty-five cords of well rotted stable manure, measured as thrown lightly into the cart without treading, and probably equal to eighteen cords trodden. He sowed the very best quality of known thorough-bred seed, on an acre and three quarters, then sowed seed grown by a neighbor, of as good quality as the average used; not having quite enough, he bought more at a seed store to finish the field. All came up equally well. On the part sown with thorough-bred seed there is scarcely an imperfect onion, and the crop is the largest in the vicinity. On the part sown with good seed, the onions are ten days later, of inferior quality, and less quantity, and valued at twenty-five per cent. less than the first. On the part sown with seed from the store, (which probably was of about the quality usually in the market), the onions

were still later, of much worse quality, and less quantity, and valued at fifty per cent. less than the first. Any one walking across the field could tell at a glance, and to a row, where the different qualities of seed were sown.

Here, then, is an instance where a field of onions, under very high cultivation, was treated, every part, exactly alike, except in the quality of seed sown The thorough-bred seed yielded the value of one hundred and fifty bushels per acre, more than the average quality of seed generally used by farmers who grow their own, and three hundred bushels per acre more than the average quality of seed sold in the market. This estimate is made while the crop is yet in the field, and six hundred bushels of onions, of the first quality, is not an over estimate of the product per acre from the thorough-bred seed.

I have no doubt that the careful selection for seed year after year, is just as important and profitable in all other vegetable and grain crops as it has been shown to be in the case of the onion crop just cited. The raising of seed may be made profitable, provided the grower conscientiously offers none for sale that is not true to description, and of the best thoroughbred quality, grown from selected stock years in succession. A few years of such business would secure a reputation worth a fortune, for such seed will always sell at very high prices.

The growing of small fruits may be made very profitable. The demand for choice fruit at high prices has never been fully met, and it increases every year. As many bushels of berries as of potatoes can be grown upon an acre of land.

Many other branches of the business of farming of equal importance might be treated of, did time permit,

that can be pursued with handsome profits, but whatever kind is undertaken, let it be persevered in, for no man, after adapting his land, buildings, stock and tools, to any one kind, can change to another without great loss of time and money.

I know an instance of an industrious and good farmer, who hired a small farm, and made every exertion to prepare it for the onion crop. He grew onions two years and was obliged to sell them from a dollar and a quarter to two dollars per barrel, while early potatoes brought high prices and paid large profits. The next two years he planted early potatoes, excluding onions, but unfortunately for him, potatoes rotted badly both years, and onions were sold from three to eight dollars per barrel. If he had continued his onion crop, his returns would have been large.

In another case, a neighbor cultivated onions, and for three years his crops were partial failures, causing him to fall in debt five hundred dollars each year, but he persisted in their cultivation, and the fourth year he was enabled to pay off his debt of the previous three years, and clear two thousand dollars besides, whereas, if he had changed his system of farming, he might never have paid his debt, and farming, in his case, would have been been a failure, instead of the great success it has since proved to be.

Having thus, Mr. President and gentlemen of the Society, given you some of the results of my experience and observation as a practical farmer, born and bred in our good old county of Essex, and knowing, too, the resources of her soil, if but wisely and thoroughly cultivated, let me, in conclusion, urge you to renewed efforts in developing those resources by premiums, by shows,

by the publication of reports and essays, by using all means to draw out *truthful* statements of experience, by disseminating knowledge of high farming, and by living up to the knowledge you possess, and practising what you preach to others, until every farmer, belonging to this society, makes his farming not only pay, but yield handsome returns for his industry.

THE EXHIBITION.

ADDRESSES, RESOLUTIONS, &C.

The Forty-Ninth Annual Exhibition and Cattle Show was held at Newburyport, Sept. 28th and 29th, 1869.

The Entries were as follows. Horses and Cattle, 146. In addition to these were Working Oxen and Steers, 20 pairs; Farm and Draft Horses, 5; Swine, 30; Sheep, 32; Poultry, 20 entries; Ploughing, 18 teams; Agricultural Implements, 8 entries; Carriages and Wagons, 10 do; Pears, 116 entries, 351 plates; Apples, 110 entries, 232 plates; Grapes and Peaches, 114 entries, 190 plates; Flowers, 140 entries; Bread, 33 do; Honey and Bees, 4 do; Preserves, 7 do; Vegetables, 76 do; Counterpanes, Carpetings and Rugs, 72 do; Manufactures and General Merchandise, 49 do; Fancy Articles, about 150 do; Butter and Cheese, 10 do; Articles Manufactured from Leather, 8 do. 27 diplomas and over $1000, in premiums were awarded.

Hon. Marshall P. Wilder, delegate from the Massachusetts Board of Agriculture, was present, and at the dinner table addressed the Society, as follows:

REMARKS OF HON. MARSHALL P. WILDER.

Mr. Wilder, in response to the call of the President, said that it was many years since he had the pleasure of visiting the Essex Society, but was most happy to be here again to meet old friends, and to participate in the privileges of the occasion. He recognized Gen. Sutton, the President, as a gentleman whose heart and purse were open to every worthy object; also Hon. Allen W. Dodge, his good Christian friend, who, from the first inception of the project, had stood by him, manfully, in all the efforts for the establishment of the State Board of Agriculture, the State Agricultural College, rendering thanks to a merciful Providence that they had been permitted to live to see those institutions established on a firm foundation. Nor would he forget his co-laborer, Major Ben. Perley Poore, with whom he had for so many years been associated in official duties, as his Secretary in the United States Agricultural Society, according to him distinguished ability for the various positions he had occupied.

Mr. Wilder expressed the great satisfaction he had experienced in the exhibition of this day. All the departments were respectable, and several were worthy of commendation, but of these he should speak in his report as the delegate from the State Board. He spoke of the Fruit Department, especially its apples and grapes, which were equal to those of the Massachusetts Horticultural Society in Boston, at their late exhibition. This led the speaker to allude to the influence of Agricultural and Horticultural Societies, of which he characterized the Essex as one of the great pioneers in the way of progress.

He had lived to see great improvements in the art of cultivation, and in these none were more remarkable than that of fruit culture. He alluded to the example of Gov. Endicott in planting his pear tree at Danvers, now multiplied into thousands of orchards, and that, instead of what was then considered an aristocratic tree for the gardens of the opulent, it is now planted in orchards of five or more thousands of a single variety. He also alluded to the same relative progress in other fruits, stating that he had just returned from the great meeting at Philadelphia of the American Pomological Society, now in the twenty-first year of its existence, where twenty-five States and thirty-four societies were represented, and where from Kansas, California, and territories which had not even a name when the national society was established, were brought fruits, for size and beauty almost surpassing belief. These, said he, are the results of a wide-spread interest in fruit culture, emanating more from the early examples in Massachusetts than from any other cause.

Mark the wonderful progress since the establishment of the Mass. Horticultural Society forty years since, when at its first exhibition, Robert Manning, your own, our own great American pomologist, (thank God, his honored son, bearing his own name, is here to-day), presented but two baskets of fruit, and who afterwards exhibited some three hundred varieties of the pear alone at one exhibition of this society.

Continuing his remarks on the influence of Societies, he accorded to Old Essex County a foremost place as a pioneer not only in Agriculture but Fruit Culture; instanced the fact that Gov. Endicott, Timothy Pickering, and Robert Manning, all had nurseries of trees. In re-

gard to such praiseworthy examples and the power of association, he gave as illustration the establishment and influence of the early Agricultural and Horticultural associations of our country. The first Agricultural Society of our land was established at Philadelphia in 1785, and of which your own Timothy Pickering was Secretary. His example, acting through his correspondents and friends in Massachusetts, soon led to the formation of the Massachusetts Society for the Promotion of Agriculture. Then the desire for Ornamental Culture came as a natural sequence, and the Pennsylvania Horticultural Society was formed in 1827, and as in the former case the Massachusetts Horticultural Society followed the example, and was established in 1829. From these Societies went forth the first emanation which culminated in the formation of similar societies now spread over our country, and of which, as it appears by the records of the Department of Agriculture at Washington, there are now more than thirteen hundred societies whose object is to promote the culture of the soil.

Such is the power of association, in which your own Essex Society has ever held a prominent standing. May it go on, prospering and to prosper, rising higher and higher in the scale of intelligence and usefulness, and may its future be as glorious as its past has been honorable.

REMARKS OF JOHN KEELEY, ESQ.,

And Resolutions of respect on the decease of Hon. James H. Duncan, of Haverhill.

Mr. President: — Since this Society last met we have sustained a great loss in the death of one of its

earliest members and efficient supporters—Hon. James H. Duncan.

Mr. Duncan's whole life was distinguished by remarkable activity. At the age of eighteen he completed a college education; studied law, and was admitted to the Essex Bar before twenty-one, and immediately established himself in his native town as a lawyer.

At this early age, his natural powers enlarged and cultivated by education, with urbanity of manner, and graceful eloquence rarely found, he was naturally thrown into intimate relations with many of the leading men of that time; and those well qualified to judge marked out for him a speedy course to eminence in his profession.

But the intense activity of his nature was soon turned into other channels, less gratifying to ambition, but perhaps more useful to his fellow man. And when this Society was formed he was found among its earliest friends. He quickly saw the influence which it might be made to exert upon the agricultural and manufacturing interests of the County, and gave to it his support. His name appears on its first printed records, and two years afterwards he was in its Board of Trustees. Subsequently he served as President for several successive years, and continued to be one of its honorary trustees until his death.

His interest in this Society never diminished; and if some have thought otherwise, let it be remembered that up to only a few days before the close of his long life, he was always burdened with an amount of business cares, such as most men would refuse to bear. Few men have entered so fully into the interests of religious, educational, political and material improvement as did Col.

Duncan, and wherever he concentrated his efforts he was sure to excel.

For many years at these annual gatherings his eloquent words of counsel and cheer have been considered almost a necessary part of our entertainments. But, Mr. President we shall to-morrow sadly miss those clear melodious utterances of practical good sense.

Having served his day and generation, through a long and eminently useful life, marked by inflexible integrity in all his relations to men, and with piety towards God, which makes his memory fragrant, he has yielded to the great *Harvester* like a shock of corn fully ripe.

I will offer the following

RESOLUTIONS.

Resolved, That as it has pleased Almighty God to remove from this Society our late esteemed associate, Jas. H. Duncan, we hereby express our sorrow for the great loss we have sustained.

Resolved, That we shall ever retain a lively recollection of his many virtues, and active labors in the cause of agriculture.

Resolved, That we tender our heart-felt sympathies to his bereaved family in their grief for his sudden death.

RESOLUTION

On the death of Jonas Holt, of Andover.

Hon. George Foster, of Andover, announced the death of Jonas Holt, of that town, and paid a fitting tribute

to his character as an esteemed citizen, intelligent man, a kind neighbor and consistent christian. He had been honored by his fellow citizens with positions of trust and responsibility, was well informed in regard to public affairs, and took a deep interest in agricultural pursuits.

Whereupon the Society directed the following Resolutions to be placed upon its records:

Resolved, That by the recent death of Jonas Holt of Andover, one of our Board of Trustees, this Society has lost a useful member, and an efficient and influential officer, whose practical knowledge and wise counsels for a long period have contributed much to the prosperity of our organization, and his many excellencies of character will ever be held by us in grateful remembrance.

REPORTS, &C.,

FAT CATTLE.

Four Entries.—Premiums awarded as follows:

Joshua L. Newhall, Newburyport, for off ox, 1st premium, Diploma, and $10.

Joseph Longfellow, Newbury, for off ox, 2d premium, $8.

Joshua L. Newhall, for near ox, 3d premium, $5.

For the committee—William Foster.

BULLS.

The Committee on Bulls have attended to their duty, and make the following report:

Ayrshires.

To J. L. Newhall, of Newburyport, for his four year old bull, "Logan," first premium, Diploma, and $10.

To J. D. W. French, of North Andover, for his bull two years old, "Mc Donald 3d," we award the Societies' second premium of $5.

C. C. Adams, of Newbury, presents his Ayrshire bull "Sachem."

S. N. Caldwell presents a young Ayrshire bull which has marks of good blood.

Jerseys.

The Society's first premium, diploma, and $10 awarded to Joseph Longfellow, of Newbury, for his bull thirteen months old.

The second premium of $5 to Eliphalet Griffin, of Newburyport, for his bull "Juno," fourteen months old.

J. T. Wood presents a good Jersey grade bull.

John Remick, of Newburyport, exhibits a grade bull seventeen months old, which is a large and well developed animal.

Your Committee also recommend that a gratuity of $5 each be given

To W. B. Carlton, of Haverhill, for his four year old bull, "Cleaveland," and

To John K. Dodge, of Newburyport, for his two year old bull, "Conqueror."

Both of which are among the best of their kind, but unfortunately are without satisfactory pedigrees.

Committee—Mark F. Hill, P. T. Winkley, W. B. Morgan, John Ellis.

MILCH COWS.

The Committee award the first premium to Moses A. Plumer, of Newburyport, $15 and diploma for his grade Ayrshire and Jersey cow, "Lupin," six years old.

It will be seen by the statement of Mr. Plumer that his cow

was dry the first ten days of June, when the rules of the society require the milk to be measured, but the Committee thought that he had complied with the spirit of the requirement, though not strictly with the letter. In comparing the statements of Mr. Plumer and Mr. French it will be seen that the former measured his milk soon after she dropped her calf; the latter two months later; we would make proper allowance for this. The one gave twenty-two quarts per day, for the first ten days in July. In September, eighteen quarts; decreasing but four quarts per day for two months. The other shrank eight quarts per day in three months, giving nineteen quarts in June and but eleven quarts in September. It is not easy to say from the statements which of the cows was fed the best for the production of milk. How many cabbage leaves it would require to be equal to two quarts of meal and four of shorts, daily, we have no means of knowing, but our impression is, that there is nothing besides green grass that will produce a greater flow of milk than cabbage leaves. It appears from Mr. Plumer's statement that he sold daily from his cow about $1,20 worth of milk for July and August.

They award the second premium of $10 to J. D. W. French, of North Andover, for his grade cow, six years old. This cow would have appeared much better if she could have been put in the pen without the excitement incident to a ride upon the cars.

They award the third premium of $5 to E. Donahoe, of Newburyport, for his grade short-horn and Jersey cow, four years old. This is a small cow to give so large a quantity of milk as the following statement shows; an average of nineteen and one fifth quarts for the first ten days in June, and but a fraction short of fourteen quarts per day in September.

Two Kerry Cows were exhibited by D. F. Appleton, of Ipswich.

The Committee are not acquainted with the merits of this breed, but we have heard them called *the poor man's cow.* How many of them it would take to make a rich man poor we will

not say, but we never thought there was much income derived from a cow's horn, which is the most prominent development of this breed.

In behalf of the Society we desire to present our thanks to Mr. Appleton for exhibiting these animals, which give us so interesting and instructive a lesson upon the effects of food and shelter upon our domestic animals. A few centuries ago these were identical with those from which the improved Short-horns of the present day came. High feed, good shelter, and careful breeding, generation after generation, have produced the one, while the other left exposed on the hills of Ireland, scantily fed, year after year, have become diminutive in many respects, with enlarged horns.

Committee—Wm. R. Putnam, Mark F. Hill, William B. Carlton, Eldred S. Parker, George W. Sanborn.

STATEMENT OF J. D. W. FRENCH.

Cochichewick Farm, North Andover,
Sept. 23, 1869.

Mr. C. P. Preston:

Sec, Essex Co. Agricultural Society,

I present for the premium given for the best Milch Cow, my cow, "Pride," six years old; a grade animal of whose pedigree I have been unable to gain any information. I think she has both Ayrshire and Durham blood. She dropped her calf 1st of April, 1869, and was served by my Ayrshire bull on the 20th of June. The first ten days in June she averaged nineteen quarts of milk per day, which weighed at the rate of $8\frac{1}{2}$ lbs. per gallon, or $42\frac{3}{4}$ lbs. for the days' milk. The first ten days in September she gave eleven quarts per day. Her feed for two months previous to calving was good hay. After calving, until she was turned out to grass, May 23rd, four quarts of shorts and one peck of roots per day besides her allowance of hay. For the past two months the pasture feed has been sup-

plemented with corn fodder and cabbage leaves. I would here state that all my stock have received like treatment during the summer; but no grain. I sell my milk, so have not tested it for butter.

I also present for premium my full-blood Ayrshire bull, "Mc. Donald" 3d; (Ayrshire Herd Book, No. 263.) He was calved February 18, 1867, so is two years seven months and ten days old. Sire, Mc Donald 2nd, 262; dam, Bessie, 268.

I also present my full-blood Ayrshire heifer, "Enid," for the premium given for the best yearling heifer. She was calved July 22, 1868. Sire, John Alden, 218; dam, Frolic, 412,

I have on exhibition my Ayrshire cow, "Madge," (A. H. Book,) 575. Calved Aug. 1860. Sire, Dandy 7th; dam, Maggie.

STATEMENT OF MOSES A. PLUMER.

I offer for premium the cow "Lillian." She is grade Jersey and native, and is now four years old.

The first ten days in June she averaged twenty quarts of milk per day; and the first ten days in September sixteen quarts per day. She dropped her calf the 18th of May, and will calve again the 10th of April, 1870. She is fed on Indian meal and shorts—eatingtwo quarts of the former, and four of the latter per day. Her milk is sold from the house at six cents per quart in summer, and seven cents in winter, and is of excellent quality. She is pastured about a mile and one half from the barn.

Newburyport, Sept., 27th, 1869.

STATEMENT OF E. DONAHOE.

I offer for premium the four-year-old grade Durham and Jersey cow, "Fanny." She dropped her last calf April 22, 1869, and will calve again the last of April, 1870. She has had a fair pasture, and one quart of meal and three quarts of

shorts per day. Her milk is of extra quality, and I present a statement of the quantity she gave the first ten days of June and September.

JUNE.		SEPTEMBER.	
Morning.	Evening.	Morning.	Evening.
8 1-2 Qts.	10 1-4 Qts.	7 Qts.	8 1-2 Qts.
9 "	10 "	6 1-2 "	8 1-2 "
9 "	10 1-2 "	6 1-2 "	7 "
8 1-2 "	10 "	5 3-4 "	7 1-2 "
9 1-2 "	10 1-2 "	5 3-4 "	7 1-2 "
8 1-4 "	10 1-2 "	6 "	8 "
8 1-2 "	10 1-2 "	6 1-4 "	7 1-2 "
9 "	10 1-4 "	6 "	8 1-2 "
8 3-4 "	10 "	6 "	8 "
9 "	10 1-2 "	6 "	7 1-2 "

HEIFERS.

Your Committee on Heifers, viz. 3 years old, 2 years old, yearlings and calves, in attending to their duty (found it no homœopathic dose) submit the following report:

There were sixty-four animals presented.

Of 3 year olds there were none conforming to the requirements of this Society.—No premiums awarded.

2 years old :

To Francis Dane, of Hamilton, first premium of $8.

To Joseph Longfellow, of Newbury, second premium of $5.

To Hiram Young, of Newbury, third premium of $3.

Yearlings :

To Francis Dane, of Hamilton, first premium of $5

To Joshua L. Newhall, of Newburyport, second premium of $3

For the best lot of calves, (four in number) the premium of $6, to S. M. Caldwell, of Newbury.

We would also state there were three fine calves presented

for inspection by B. P. Pool, Esq., of West Newbury; we learned by a lady, a member of his family, that there were more at home of the same sort, and in justice to the calves presented, we think their owner remiss in duty; a hint to the wise is sufficient.

There was a fine heifer *imported,* together with three calves from imported stock, presented by E. Griffin, of Newburyport, to which no premium could be awarded.

There are several other animals well worthy of this society's consideration, and our regret is that *limited means* prevented doing them justice.

Committee—E. G. Berry, Geo. B. Dodge, G. A. Randall, Sam'l Wallace.

WORKING OXEN AND STEERS.

Premiums awarded as follows:

To Edward H. Little, of Newbury, for oxen, first premium and diploma, $12.

To Sam'l Moody, of West Newbury, for oxen, 2d premium, $10.

To Silas Little, of Newbury, for oxen, 3d premium, $8.

To Gideon R. Lucy, of Newbury, for steers, first premium and diploma, $8.

To Joseph Horton, of Ipswich, for steers, 2d premium, $5.

Committee—R. S. Pray, Geo. H. Snow, John S. Preston.

STEERS.

The Committee on steers would report that there were seven pairs of steers entered for premium:

Two pairs 3 years old, three pairs 2 years old and two pairs of yearlings.

We have awarded premiums as follows :

For three years old, 1st, premium of $6 to Romulus Jaques, of West Newbury.

2d premium of $2 to Daniel Moulton, of West Newbury.

For two years old, 1st, premium of $5 to James D. White, of Haverhill, and the 2d, premium of $4 to Paul T. Winkley, of Newburyport.

For yearling Steers, first premium of $4 to Dr. Joseph Kittredge of North Andover, and the second premium of $3 to Paul T. Winkley, of Newburyport.

The other pair of two year old Steers were entered by Nathaniel Stevens, of North Andover, a boy only twelve years old, who showed good skill in the training of his Steers. They would back, go forward, haw or gee, like well trained oxen, and as an encouragement to the boy, for making so good a show with his well trained Steers, the committee would recommend that a gratuity of $3 be allowed him.

Committee—Abel Stickney, Allen Smith, jr, Sylvanus B. Swan, John Brown, R. T. Jaques.

STALLIONS.

Premiums awarded for Stallions, four years old and upwards. Bartlett & Weeman, Danvers, "Danvers Boy, jr." first premium, Diploma, and $15.

D. F. Morrill & Son, Amesbury, "Abdallah Chief," second premium $10.

Stallion three years old, Chas. O. Putnam, Danvers, "Young Danvers Boy," first premium, $8.

N. Little Newbury, for Stallion, second premium, $5.

The Committee on Stallions present the following report in addition to their announcement of premiums already handed to the Secretary. The committee regretted very much that there were only four animals for their inspection. They attributed this to the small amount of premiums given to the different classes of horses, which are no larger, if as large as those given in 1832, when the first premium ever given by the society was $20 for the "Iron Gray Colt," so called, of Mr. John O. W. Brown, of Newbury.

It was stated by a gentleman of experience in such matters that the display of grapes of this year was one of the finest he had ever seen. Is this not owing to the largeness of premiums, as compared with those for horses? On referring to the awards of last year, we see that there were given in premiums and gratuities for grapes $49, whilst for Stallions, in the same year, only $18, and this year $46. The committee unanimously suggest a premium for the best Stallion, four years old and upwards, as high certainly, as $50, and other premiums for horses in proportion. The committee also mention the propriety of the adoption of a regulation by the society that the pedigree of horses must be completely and accurately given, on the dam's side as well as the sire's, and that this should be insisted upon by our worthy Secretary before the entry for each exhibition is made. The committee cannot see the usefulness of the rule of the society preventing a Stallion that takes the first premium one year, from taking the same premium the following year, if deserving. A horse generally grows in value and beauty each year, in many cases till 15 or more years old, and the people desire to see him, and the emulation to raisers of horses must be increased in our county if this rule was not a prevailing one.

The committee were particularly pleased with "Young Danvers Boy" presented by Mr. Charles O. Putnam, of Danvers. This colt though only a three years old, had most excellent limbs, fine bone and muscle, a square strong step, a good stride and a clean blood-like head and eye, and if handled properly, will be of great value.

All the Stallions were of such an excellent class as to claim the attention of the farmers of Essex who wish good colts, and thereby improve the value of this class of stock, for we are convinced, that, be they ever so old fashioned, the farmer is as anxious as any one to breed a "Lady Thorn" or a "Goldsmith Maid,"—mares worth their tens of thousands.

FRANK ALLEY, for the Committee.

BREEDING MARES.

The Committee report five entries, premiums as follows:—

To Daniel G. Todd, of Rowley, the first premium, a diploma and $15.

To Charles Kimball, of Bradford, the second premium of $10.

To Benjamin F. Jenkins, of North Andover, the third premium of $8.

Committee—Eben King, F. R. Allen, John Swinerton, Wm. H. Patch.

FAMILY HORSES.

The Committee report four entries, with premiums as follows:—

To William Hervey, of Newburyport, the first premium, a diploma and $15.

To Robert Bailey, of Newburyport, the second premium of $10.

To David Smith, of Newburyport, the third premiun of $8.

Committee—James P. King, L. H. Russell, G. R. Lucy, Andrew Lane, J. N. Kent.

FARM AND DRAFT HORSES.

There were four entries and premiums were awarded:

To E. H. Little, of Newbury, first premium, diploma and $10.

To James T. Carleton, of Bradford, 2d premium, $8.

To J. D. W. French, of No. Andover, 3d premium, $5.

For the Committee—James Flint.

COLTS.

The Committee award the following premiums:

Colts Four Years Old.

To Orrin Putnam, of Danvers, first premium, diploma and $10.—Sire, Danvers Boy.

To Washington Burnham, of Essex, second premium, $5. Sire, St. Lawrence.

Colts Three Years Old.

To Daniel Weed, of Amesbury, first premium, $6. Sire, Taggart's Abdallah.

To David Foss, of Newburyport, second premium, $4.

Colts Two Years Old.

To Elbridge Batelle, of Newburyport, first premium, $5. Sire, Percheron Stallion, Conqueror.

To Francis Dane, of Hamilton, second premium, $3. Sire, Green's Hamiltonian.

Colts One Year Old.

To J. Otis Winkley, of Newburyport, first premium $4.—Morgan Stock.

To A. F. Newhall, of Newburyport, second premium, $3. Sire, Young Messenger.

Committee—D. G. Todd, J. D. W. French.

SWINE.

There were seven entries and premiums awarded as follows:

To H. P. Holt, of Andover, for boar, first premium, diploma and $8.

To Joseph Longfellow, of Newbury, second premium, $5

Geo. B. Austin, of Boxford, for breeding sow, first premium, diploma and $8.

To William Foster, of No. Andover, second premium, $5.

To Joseph Longfellow, of Newbury, for weaned pigs, first premium, $5.

William Foster, of No. Andover, second premium, $3.

Committee—Edward Little, Hanson Ordway, C. H. Ordway, Wm. J. Dale, Jr., Geo. Abbott.

POULTRY.

The Committee on poultry found entered upon their books the names of eighteen exhibitors, and at their stand sixty-four coups of fowls—one of the largest displays that has been seen at our county show for a long time, and they would award the following premiums and gratuities :

To John S. Ives of Salem, for the best display of fowls, first premium, $5.

To Paul T. Winkley, of Newburyport, for 2d do, second premium, $2.

To Edward E. Bartlett, of Newburyport, 3d do, gratuity, $1.

To John Swinerton, of Danvers, for best coop of Brahmas, first premium, $3.

To Joseph Horton, of Ipswich, for Bremen geese, gratuity $2.

To John Ives, of Salem, for Alesbury ducks, gratuity, $2.

To Thomas E. Bartlett, of Newburyport, for Alesbury ducks, gratuity, $1.

To Mrs. G. L. Streeter, of Salem, for trio Creve-Cœurs, gratuity, $2.

To J. B. Smith, of Newburyport, for Rocky Mountain, gratuity, $2.

Committee—Andrew Nichols, John I. Ladd, Amos Pratt.

SHEEP.

The Committee on sheep report:

They award to Francis Dane, of Hamilton, for his Cotswold ewes, the first premium of $8 and diploma.

To Romulus Jaques, of West Newbury, for his grade ewes, the second premium of $5.

To Francis Dane, of Hamilton, for the best lot of lambs, $3.

To D. F. Appleton, of Ipswich, for his Cotswold buck, diploma and $6.

Committee,—Moses H. Poore, Charles Corliss, A. P. Bateman.

PLOUGHING—DOUBLE TEAMS.

The Committee on Ploughing with Double Teams would report as follows :—

That there were five entries, but only four teams appeared upon the ground.

The premiums were awarded as follows:

First premium of $12 and diploma to D. L. Goodrich, West Newbury; Plough, Whittemore & Belcher "Eagle," No. 20 Time, 24 minutes.

Second premium of $10 to R. T. Jaques and R. S. Bray of Newbury; Plough, Ames' "Eagle," No. 20. Time, 23 minutes.

Third premium of $9 to Jos. Horton, of Ipswich; Plough, Ruggles & Nourse's "Eagle," No 2. Time 26 minutes.

Fourth premium of $8 to E. H. Little, Newbury; Plough, Prouty & Mears, 155. Time 32 minutes.

The ground on which the trial was had was rather light, and free from stones; consequeutly it did not so thoroughly test the skill of the ploughmen or quality of the ploughs.

We suppose the principal object of the ploughing match is, to furnish as near as may be, specimens of model ploughing to less experienced ploughmen. It does not, like most parts of the exhibition, exhibit the *results* of skill alone, but it shows the manner in which the work is done. We can see, and compare, the practice of our best ploughmen in holding the plough. We can see how a good teamster manages his team, and oftentimes how a team should *not* be driven. And we can compare at the ploughing match the relative merits of the different forms of ploughs.

There were, at our ploughing match, some specimens of holding the plough that would hardly be excelled, and some beautifully managed teams, but your committee were unanimous in the opinion that there was too much hurry. Some of the teams went at such a rate that the dirt flew from the mould board, like grain from out a threshing machine; and it will be noticed that two of the competitors ploughed the prescribed sixth of an acre in the Dexter-like time of twenty-four minutes. At this rate a team would plough four acres in ten hours. Now we question, very much, the propriety of en-

couraging the driving of a team so much beyond its power of endurance. If we should go into the field and find our men urging our ox-team at such a rate, while breaking up sod ground, we should think the cattle were abused, and feel like abusing the driver. Should we then encourage, at a prize trial, what we would not *allow* on our own farms?

If it is understood that ploughing must be done at such an extreme rate of speed in order to obtain a premium, very few will be found to compete, because few cattle are quick enough and at the same time sufficiently steady. We think it ought to be understood by competitors that excessive speed in ploughing is not an essential element of success, but that the premium depends upon the quality of the work; and that, other things being equal, a moderate team has an equal chance for the prize.

Committee—Joseph S. Howe, A. H. Patch, Jas. B. Foster, J. B. Tewksbury, E. Harrington, J. Longfellow.

PLOUGHING—SINGLE TEAMS.

The Committee make the following awards:—

To William Jaques, Newbury, the first premium of $7, and a diploma.

To Thomas G. Ordway, West Newbury, the second premium, $6.

Committee—S. A. Merrill, E. K. Lee, John Day, A. M. Bodwell, Luther Noyes.

PLOUGHING—WITH HORSES.

The Committee report four entries, and make the following awards:

To Joshua L. Newhall, of Newburyport, the first premium of $10, and diploma.

To Edward H. Little, of Newbury, the second premium, $7.

To Wm. R. Putnam, Danvers, the third premium, $4.

Committee—R. Jaques, Wm. E. Kimball, Moses H. Poor, Wm. Little.

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PLOUGHING—SIDE HILL PLOUGH.

There were four entries, consisting of two single and two double teams. The following awards were made :—

To Samuel Moody, Jr., of West Newbury, the first premium of $10, and diploma.

To Wm. Foster, No. Andover, the second premium, $8.

Chairman of Committee—E. S. Parker.

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PLOUGHING—BY BOYS.

The Committee on Ploughing by Boys submit the following report :—

President Sutton offered another liberal premium to boys not over eighteen years of age, for ploughing.

It was said by one of our good farmers on the ploughing field, in the hearing of the writer, that he would pay five hundred dollars if he could hold a plough as well as a certain person who was then ploughing on the field (calling him by name,) and he further said, that a person rarely became an expert at driving oxen or holding a plough, unless he commenced when young. It is not to be supposed that the person alluded to was desirous of driving, or holding a plough personally, to

much extent, but that he might be better qualified to direct his men.

To be a successful farmer, a person should understand how to perform all the different kinds of labor done on the farm, and as much of the labor is performed by machinery, he should also know how to adjust and keep it in order. It may therefore naturally be expected that a person who spends the early part of his life on the farm, will be more successful (other things being equal,) than those who commence farming later in life.

There were but three competitors on the field, viz: George W. Bray, Newbury, 17 years old; Samuel O. Ordway, West Newbury, 17 years old; and Leonard N. Rogers, of Newbury, 18 years old. Bray used Prouty & Mears' plough, No. 55; Ordway used conical plough, No. 5½, Bartlett & Co., maker; Rogers used Hussey plough, No. 16. They all performed their work well, worthy of experienced ploughmen, and there was but little difference in the quality of the ploughing. Ordway's land was not quite so favorable for ploughing as the other lots, as it was hollowing in the middle of the land, consequently the furrows had to be turned up hill.

The committee would recommend the following premiums:

First premium of $25 to George W. Bray, Newbury.
Second " $15 to Samuel O. Ordway, West Newbury.
Third " $10 to Leonard N. Rogers, Newbury.

Chairman of the Committee—Joseph How.

AGRICULTURAL IMPLEMENTS.

The Committee on Agricultural Implements report that there were about the usual number and variety exhibited.

Those of Parker & Gannett, of Boston were the most

numerous, consisting of Hay Cutters, Cider Mills, Ploughs, &c., making in all twenty-three articles.

Whittemore, Belcher & Co., of Boston exhibited Ploughs, Harrows, Churns, &c. These two companies were the largest contributors.

The Committee award to Parker & Gannett, of Boston the premium of fifteen dollars and diploma for the best collection.

There were two Farm and Hay Wagons; both very well made, and adapted for the cartage of hay. The Committee found some difficulty in deciding which was the best, but concluded to give the sum of $5 to Webster Smith, of Ipswich, for the best Farm Wagon.

To Whittemore, Belcher & Co., Boston, they award $3 for their Grant Hay Cutter.

To Amos Poor, of West Newbury, they award the sum of $3 for his Peerless Churn, and to Whittemore, Belcher & Co., Boston, the same sum for their Smith's Churn. Both of these churns appeared to the Committee as though they were well adapted to the purpose for which they were designed, but no one appeared to give any information in regard to them, and there was no trial.

The Committee award to E. E. Lummus, of Boston, the sum of $5 for his American Hay Tedder. This is a good machine, but should be improved by making it of lighter draft.

The Committee also noticed a Seed Sower of a new pattern, invented and made by Charles R. Sargent, of Newburyport. It is made of metal, except the handles, and furrows and covers as well as any machine we are acquainted with.

The new invention consists in the manner of measuring the seed, which is done by holes drilled in a wheel that passes through the seed box, and such is the precision claimed, that Mr. Sargent told the Committee if they wished to sow two cabbage seeds a foot apart, he could do it. All kinds, and any amount of seed can be sown. Persons who have used it, speak very highly of it.

The Committee award $6 to Charles P. Sargent, for his Monitor Seed Sower.

There were other Implements which were excluded by the rules of the Society.

For the Committee—Francis Dodge.

CARRIAGES.

The awards are as follows :

To Foster and Howe, Amesbury, for Carriage Wheels, a diploma.

To T. B. Patten, West Amesbury, for Concord pattern Wagon gratuity, $10.

Committee — T. R. Leach, L. W. Tyler, John Danforth.

DAIRY.

Report of the Committee on Dairy :

The Committee on the Dairy report that nine lots of Butter were entered for premium, but three of the claimants having failed to present a sample of not less than fifteen pounds, your Committee, in awarding the following premiums, were confined to the remaining six competitors.

The first premium of a diploma and $12 was unanimously awarded to A. F. Hobbs, of Wenham ; the second premium of $10, to Mrs. Longfellow, of Byfield ; the third premium of $8, to Mrs. A. Dane, of Hamilton ; the fourth premium of $5, to Mrs. Ridgeway, of West Newbury.

Three samples of Cheese were presented for our inspection.

We award the first premium of $8, to D L. Goodridge, West Newbury; the second premium of $5, to H. Moulton, Byfield Cheese Manufactory.

It has occurred to your Committee, that the statements usually given, are remarkably similar. It is now well understood that nicely scalded utensils, and exact cleanliness in all the process, is essential in producing excellent butter. Your Committee are glad to see that two of the successful claimants have this year gone a little farther in their statements, and have stated that their cows are of the Jersey stock. Both of these samples of butter were put up with remarkable neatness, and were of excellent flavor If the butter, presented by Mrs. Dane, had been of as rich a color as was that of Mrs. Hobbs, your Committee might have been somewhat at a loss to have decided between them. Perhaps the food of these animals was not of the same kind or quality, and the difference in the quality of the butter might be owing partly, to this circumstance. Or, if the difference is owing to the *additional fact stated* by Mrs. Hobbs—scalding the milk—then that matter should be established by further experiments.

Some butter, as soon as it is gathered in the churn, seems to possess a quality, in consequence of which, as soon as it is compressed together, the butter-milk is very easily removed, either with, or without rinsing in cold water. And after remaining, a few hours well mixed, with but little salt, and then slightly worked, the lumps will present that clear, waxy appearance, rich taste and sweet smell, which will ensure the first premiums at our fairs, and the *gilt edge* price in the market.

Committee—John Keely, John A. Putnam, N. Lambert, George E. Herrick, George Foster.

STATEMENT OF A. F. HOBBS.

To the Committee on Dairy, Gentlemen :

This box of Butter contains 19 pounds, was made from high

grade Jersey Cows, by the following method: the milk was first strained into tin pans to the depth of one and one-half inches, after the lapse of twelve hours, each pan of milk was placed on the stove and slowly scalded. It was then replaced in the dairy-room to remain from 24 to 36 hours. Care was taken to remove the cream before the milk was changed. The cream was kept in a stone jar, salted and stirred daily until it was churned, which was twice a week. After churning the butter, the butter-milk was thoroughly extracted by hand, weighed and salted. The amount of salt used, was $\frac{3}{4}$ ounce per pound; the whole mass was returned to the dairy cellar to remain 24 hours, when it was again worked over into one pound lumps, and formed by the use of butter clappers. By experimental test, butter made by this process has retained its sweetness in an open closet for ten months.

STATEMENT OF MRS. LONGFELLOW.

The box of Butter which I enter for premium, contains 15 pounds, and was made the present month. The following is is the process of making: the milk is strained into tin pans to the depth of two and one-half inches, and is allowed to remain from twenty-four to thirty-six hours, according to the weather. Then the cream is taken off and put into a stone jar with a little salt, stirred twice a day till churned, which is done twice a week. When the butter is collected, the butter-milk is drawn off, the butter taken from the churn, worked by hand and salted to taste, which requires about one ounce of Syracuse dairy salt, to the pound. After twenty-four hours it is worked again and formed into lumps as presented.

STATEMENT OF MRS. DANE.

This box of September Butter, containing 20 pounds, was

made from the milk of Jersey Cows. It was allowed to stand 24 hours, then the cream was taken off and stirred twice a day, until churned, which takes from eight to ten minutes. Then the butter is taken from the churn and worked by hand and salted, one ounce to the pound. After twelve hours, worked again and formed into lumps as presented for premium.

STATEMENT OF MRS. RIDGWAY.

To the Committee on Dairy—Gentlemen :

I present for your examination, sixteen pounds of September Butter, made by the following rule : the milk was strained into nicely scalded tin pans, and allowed to remain thirty-six hours, then skimmed into tin pails and stirred morning and evening for two or three days ; as soon as churned, the butter was rinsed in cold water, salted to the taste with rock salt, worked twice, and made into balls as presented.

STATEMENT OF D. L. GOODRIDGE.

I present for examination, four new milk cheeses ; each cheese contains the milk of two days,— one of them is sage. My manner of making is as follows : strain the evening's milk in tin pans, which is warmed in the morning, and added to the morning's milk, and rennet added to form a curd in thirty minutes. Let it stand one hour, then break and drain thoroughly, slice and salt in tin pans, and place in the celler. Repeat the process with the next night's and morning's milk. The curds are then mixed, scalded with water, chopped fine, salted to taste and pressed twenty-four hours.

STATEMENT OF THE BYFIELD CHEESE COMPANY.

Heat the milk to 86 degrees, then put in the rennet, let it set two hours, then strike it across, then heat curd to 100 degrees, until it is cooked. Salt two seven-tenths to one thousand pounds of milk ; keep in press 24 to 36 hours, dry forty days. Butter them twice in the time, turn them every day, then they are fit for use.

BREAD AND HONEY.

The Committee on Bread and Honey report the following gratuities awarded by them :

Bread.—Mrs. C. A. Alley, $3 ; Mrs. Lucy A. Danforth, $2.50 ; M. H. Seward, $1 ; Anna E. Titcomb, $1 ; Robert Carter, $1 ; Mary E. Spalding, (12 years of age) $1 ; Martha Fowler, Mrs. N. B. Lake, Grace G. Stacey, Mrs. D. M. French, John H. Balch, Jennie J. Downs, Mrs. Phillips, W. H. Delano, Alice G. George, 50 cents each.

Entries of Bread, 33.

BEES AND HONEY.

D. T. Batchelder, D. C. Batchelder, $2 each ; Alfred Green, H. Alley, $1 each.

Entries of Bees and Honey, 4.

Committee—Edmund Smith, John J. Gould, Luther Allen, Charles Ingalls.

PEARS.

The Committee on Pears have awarded the following pre-

miums for the best twelve specimens of the following named varieties :

To Robert Fowle, of Newburyport, Bartlett, $1 ; S. M. Gale, do, Belle Lucrative, $1 ; S. A. Smith, do, Flemish Beauty, $1 ; Samuel Brown, do, Beurre Superfine, $1 ; Richard Plummer, do, Beurre Bosc, $1 ; P. H. Blumpey, do, Swans Orange, $1 ; H. Kimball, do, Seckel, $1 ; A. D. Ordway, West Newbury, Winter Nelis, $1 ; D. T. Batchelder, Newburyport, Buffum, $1 ; J. S. Frothingham, do, St. Michael Archange, $1 ; Thomas Capers, do, Vicar, $1 ; Henry Shoof, do, Lawrence, $1 ; S. M. Gale, do, Glout Morceau, $1 ; R. S. Griffith, do, Louise Bon d'Jersey, $1 ; Mrs. J. Greenleaf, Beurre Clairgeau, $1 ; William Mason, do, Duchess, $1 ; Henry Shoof, do, Urbaniste, $1 ; James Fogg, do, Beurre Diel, $1 ; E. S. Tappan, do, Heathcote, $1 ; John M. Ives, Salem, Golden Beurre $1 ; John V. Stevens, Peabody, Howell, $1 ; John V. Stevens, do, Doyenne Bossouck, $1 ; John V. Stevens, do, Beurre d'Anjou, $1 ; Hiram Plummer, do, Maria Louise, $1 ; J. V. Stevens, do, Soldat Laboureur, $1 ; D. T. Bachelder, do, Buffum, $1.

Premium for the best ten plates of Pears to Rufus S. Griffith, of Newburyport, $3.

For the best plate of Pears, not less than twenty-four specimens, diploma and $5, to John V. Stevens.

Gratuities of 50 cents each, were awarded for the following named varieties of Pears :

To Samuel Brown, of Newburyport, Bartlett ; N. Morse, do, Belle Lucrative ; Henry Cook, do, Flemish Beauty ; Joseph Atkinson, do, Beurre Bosc ; John V. Stevens, Peabody, Beurre Superfine ; Hiram Plummer, Swans Orange ; C. H. Coffin, Newburyport, Seckel ; D. G. Batchelder, Lawrence ; Henry Shoof, do, Glout Morceau ; C. H. Ireland, do, L. B. d'Jersey; D. G. Batchelder, do, Beurre Clairgeau; John Preston, Georgetown Vicar ; Charles P. Marshall, do, West Newbury, Duchess ; Thomas L. Nelson, do, Urbaniste ; Henry Shoof, Newburyport, Beurre Diel ; John Bailey, do, Beurre d'Anjou ;

Isaac P. Noyes, do, Maria Louise ; Samuel Brown, do, Grey Doyenne ; S. P. Tappan, do, Napoleon ; J. V. Stevens, Peabody, Figue d'Alencon ; T. K. Bartlett, Newburyport, Buffum.

Committee—John V. Stevens, Jabez Rowe, Thomas Hale, J. B. Tewksbury.

APPLES.

The Committee on Apples report as follows :

Hiram Canney, Newb't, best 24 specimens, 1st prem. Diploma and $5 ; W. F. Sargent, Amesbury, best 10 varieties, prem. $3 ; Mrs. Coffin, Newb't, Golden Russett, 1 ; Asa Adams, jr., Newb't, Porter, 1 ; Geo. W. Bray, West Newbury, Baldwin, 1 ; G. Plummer, Newb't, Hubbardston, 1 ; Geo. H. Lander, Newb't, D. W. Sweet, 1 ; E. G. Eaton, Groveland, Gravenstein, 1 ; Parsons Ordway, West Newbury, Minister, 1 ; J. D. Pike, Newb't, R. Russet, 1 ; Joseph Longfellow, Newbury, R. I. Greenings, 1 ; D. H. Cutter, Newb't, Fall Pippin, 1 ; George Tilton, Newb't, Baldwin, 1 ; J. A. Lunt, Newb't, Williams, 1 ; H. and J. M. Perry, Danvers, Fall Harvey, 1 ; Daniel Plummer, Newbury, Bradford Nonesuch, 1 ; Stephen Green, Newb't, Merrimac Sweet, 1 ; B. W. Cole, Newb't, Pride of the East, 1 ; G. Plummer, Newb't, Jersey Pippins, 1 ; Hiram Canney, Newb't, Gilliflowers, 1.

GRATUITIES.

Albert Tilton, Newb't, Hubbardston, 50 cts ; T. K. Leach, Topsfield, Hubbardston, 50 cts ; Miss C. Thurlow, Newb't, Crab Apples, 50 cts ; C. H. Bevan, Newb't, Porter, 50 cts ; B. Stevens, Salisbury, Spitsenburgh, 50 cts ; C. H. Ireland, Newb't, Beefsteak, 50 cts ; J. I. Ladd, Groveland, Old Man Apple, 50 cts ; Albert Keyes, Newb't Queen Ann, 50 cts ;

Asa Adams, jr., Newb't, Rock Sweet, 50 cts ; T. K. Bartlett, Newb't, Moody and Spice, $1 ; Thomas C. Thurlow, West Newbury, Porter, 50 cts ; J. L. Newhall, Newb't, Natural, 50 cts.

Committee — G. C. Rogers, James Wilson, George E. Adams.

GRAPES, PEACHES &C.

The Committee on Peaches, Assorted Fruit and Grapes report

The show of Grapes was unusually fine. The largest and best ever made by the Society, and the Committee regret exceedingly, not to be able to give even a gratuity to many worthy contributors, but have endeavored to distribute the small amount of funds at our disposal to the best of our judgment, and award

Premiums for Peaches to W. H. Noyes, Newburyport, T. R. Bartlet, do, W. Wheelwright, do, $1 each ; D. C. Batchelor, do, Miss Georgia Bassett, do, Miss Addie Coffin, do, Rev. S. J. Spaulding, do, gratuity, 50 cents each.

Grapes.— George W. Gage, Methuen, Concord Grapes ; George C. Rogers, West Newbury, Hartford ; Charles P. Savary, Groveland, Isabella ; C. H. Ireland, Newburyport, Delaware ; C. P. Savary, Groveland, Iona ; H. Knight, West Newbury, Isabella ; C. H. Ireland, Newburyport, Adirondack ; Charles H. Pinkham, Salem, Rogers, 15 ; George W. Gage, Methuen, Rogers, 19 ; George W. Gage, do, Rogers 4 ; George W. Gage, do, Rogers, 3, $2 each, premium ; George W. Kelley, Newburyport, Cold House Grapes, $3 ; George W. Gage, Methuen, best ten varieties, diploma and $5 ; W. H. Huse, Newburyport, best Rebecca ; Warren Currier, do, Cold House Grapes ; Rufus S. Griffith, do, Diana ; Robert Rich, Salisbury,

Rogers, 43, $1 each; Robert Rich, do, Concord; John V. Stevens, Delaware; Henry L. Savary, Groveland, Delaware; C. P. Savary, do, Delaware; C. P. Savary, do, Clinton; H. A. Lander, do, Grapes; D. Granger, Newburyport, Concord; B. F. Huntington, Amesbury, Delaware; Robert Bailey, Newburyport, Native Grapes; Henry Shoof, do, Adirondack; John D. Pike, do, Grapes; Daniel Horton, do, Israella; Mrs. David W. Hopkinson, Groveland, superior Quince Wine; M. W. Bartlet, West Newbury, Delaware; H. M. Bracket, do, Concord; Hiram Canney, Newburyport, Concord; J. A. Atkinson, do, Quince; Samuel Brown, do, do., George C. Rogers, West Newbury, Delaware Grape; Mrs. I. A. Cooper, do, Wine; Mrs M. Haskell, do, Canned Pears, gratuities, 50 cents each.

For Committee — D. H. Stickney.

FLOWERS.

The Committee on Flowers report the following awards and gratuities:

Mrs. Robert Bayley, Newburyport, best pair Hand Boquets, $2; Mrs. Robert Bayley, do, best twelve varieties Verbenas, $1; Thomas Capers, do, for best general display, Diploma and $3; to the same, for Floral Design, $1.50; best 12 varieties Dahlias, $1; dish Cut Flowers, $2; Warren Currier, Newburyport, Floral Cross and Baskets, $1.50; to the same for general display of Flowers and Plants $3; Mrs. Isabella S. Ladd, Groveland, Native Flowers, $1; John Higgins, Newburyport, general display of Plants, $2; T. C. Thurlow West Newbury, 14 varieties of Evergreen and Boquets, $1; Mrs. Mark Haskell, do, pair of Parlor Boquets, $1; Pillsbury and Cutter, Kingston, N. H., display of Everlasting Flowers

and Carnation Pinks, $1; Mrs. Robert Bayley, Newburyport, Floral Design, $1.

Gratuities of 50 cents each were awarded to the following persons for Boquets, Plants, Cut Flowers and Hanging Baskets :

Neddie H. George, Mrs. Alden, M. M. Bartlett, Charles Adams, W. A. Stringman, Mrs. W. S. Gerrish, Mrs. S. A. Currier, G. A. Ordway, Martha E. Jackman, Mrs. W. D. Wells, John Sumner, M. A. Colby, Mrs. Samuel March, Jr., Lucy Morse, Miss Mary E. Lunt, Miss A. Smith, Mary F. Jarvin, Annie S. Spalding, Mrs. John Burrill, Mrs. Gowen Dockam, (2 premiums) Mrs. A. S. Pettigrew, Mrs. J. L. Newhall, Mrs. Stephen Green, John C. Smith, Alfred Hale, Annie G. Hale, Mrs. Laroy Currier, Mrs. Lucy Morse, the Misses Brockway and Osgood, Mrs. L Crane, (Night Blooming Cerius) Mrs. Amos Pearson, Mrs. Johnson.

The display of plants and flowers, this year, was very fine, far exceeding that of previous years, and indicates a growing interest in this department of culture.

The exhibition of plants, flowers and floral designs by Messrs. Capers, Currier and Higgins, are worthy of special note, embracing over one hundred and fifty varieties, many of which are very rare.

Some rare plants, flowers and handsomely arranged boquets, were offered by persons of advanced age, while others, equally beautiful and attractive, were from the hands of quite young children, of both sexes, indicating the almost universal interest in the floral department of culture. The number of boquets, floral designs, etc., not included in the contributions of Messrs. Capers, Currier & Higgins, was 184.

The Committee found the sum placed in their hands for distribution in premiums and gratuities, quite inadequate to meet the reasonable demand in offering encouragement to contributors, and have been obliged to slightly exceed the appropriation in order to make a partial approach to justice, and a fair offer of friendly encouragement. They would recommend an

increased appropriation to this department for the coming year, and also a special appropriation for premiums on the Gladiolis, there being an evident growing interest in the cultivation of this beautiful flower. This year, some very rare and elegant specimens were exhibited by Miss Mary E. Lunt and Martha E. Jackman, which were richly deserving of a higher award than they were able to give.

The display of Evergreens, by Mr. Thurlow of West Newbury, embracing fourteen varieties; also Native Flowers by Mrs. Isabella S. Ladd of Groveland, and others, embracing nearly one hundred varieties, call for special mention. The committee cannot too warmly recommend to the society the importance of giving increased aid to this prominent and interesting department.

Committee—James F. West, George D. Glover, John Price, John G. Whittier, Charles M. Bailey.

VEGETABLES.

Any thrifty housewife who was compelled by untoward circumstances to drop into the dinner pot an onion weighing one pound, or a turnip beet weighing six pounds, would consider herself unfortunate, and when "boiled dinner" came to the table John would not be expected to go into raptures over the thick, coarse sloughing layers of the onion; the stringy, flavorless beet. Now an onion is grown for table use only, and as a rule turnip beets are grown for table use only; why then should a false standard be encouraged on our exhibition tables by awarding premiums to specimens of these two vegetables, whose size would render them utterly worthless for the table, the only use now made of them.

The carrot has a double use, being cultivated for the table, and for stock; for our tables we want the sweetest, the finest

grained, and the richest flavored of all the numerous varieties. This we have in the Early Scarlet Horn, the earliest of all. This is a short carrot, growing about three inches long and two in diameter, but it will bear planting in rich land three inches deep. For feeding stock, the size is of primary consideration; this we find in the White Belgian and large Orange varieties. The White Belgian will yield a quarter more than any other variety, and growing partly out of the ground, a large part of the crop can be pulled by hand. For horses this is a good carrot, but for the butter and milk of dairy stock, we want the rich color of the Orange varieties, and the best of these is the short top, half long, otherwise known as Improved Long Orange, and locally known as the Danvers Carrot. This carrot has a greater diameter near the surface than Long Orange planted at the same time, while being shorter, it is more easily pulled and less liable to break in the ground than that variety.

The parsnip is at present, grown almost entirely for the table, and at the best, we do not ordinarily, by October grow a very large root, other conditions being equal; to the largest root, I would award the highest premium. I think that the day is not far distant when our Jersey Cows will be treated in winter to the root on which they are almost reared in their native island, the parsnip. Shallow, dry, stony, or anything but the richest of soil is unpropitious for a good growth of the parsnip; but peat meadows, to the reclaiming of which so much attention is given of late years, are most excellent for growing the parsnip, and all other roots to the largest size; and when the best possible result is sought in our Jersey Cows, in the condition of the stock, and the quality of butter and milk, then the rich, sweet parsnip will have its day. For family use, on deep soil, the improved varieties such as Abbott's and the Student's which taper quickly from the top, are preferable, while for shallow soil the little turnip rooter, of nearly the shape of a flat turnip, is a gem.

I believe of beets, as of parsnips, that a day will come when

the condition of quality will so far enter into our consideration that we shall grow the turnip and long blood beet to feed to stock. By planting early in the season in rich soil and thining to a foot apart, a growth of from ten to twelve pounds can be attained, and I have had isolated specimens weigh over twenty pounds. While the Mangel Wurzel affords us but little else than water, the common beet is a saccharine vegetable, and the sugar, besides, improving the quality of the milk, adds fat to the animal. Let me here make a seedsman's suggestion to my brother farmers, — when you see Sugar Beets, or White Sugar Beets advertised in catalogues, remember it means a variety of Mangold Wurzel, used largely in Europe for the manufacture of sugar — preferred to other sorts because it has but little coloring matter in its composition, and utterly worthless for table use.

As an early, short top, the Early Flat is desirable, while for a handsome round beet, excellent for the family, or the market, Deming's is an acquisition. Simon's Early is a favorite with the Philadelphia marketmen. The half long varieties, such as Henderson's, Pine Apple, Castelnandary and Crapandine, are rather small in size, but of excellent quality.

In Mangold Wurzels, what we want, is size and quality, though as ordinarily grown, have in view quantity only. If the variety of Mangold Wurzel, alluded to above, had no more sweetness in it as grown in Europe, that most of those fed to our milch cows, " the bottom would be knocked out" of their sugar enterprise in a single season. Let the experiment be tried of growing under the same condition, a piece of Mangolds, one on high and one on low land When the crop is gathered, those on the low land may be larger, but those on the upland will be sweeter. If the farmer is only desirous of increasing the *quantity* of milk, he will feed Mangolds from low land ; if he has regard also to the condition of his animals, he will feed mangolds grown on upland, and I will add if he aims at producing butter, he will feed carrots rather than mangolds. I know of no more common error in dairy mat-

ters, than in the time at which mangolds are fed to cows. Most vegetables undergo a change in their nature, after they are gathered and stored,—some potatoes undergo a ripening process, so that the characteristics of October are not the characteristics of March; in a few months our turnips become "corky" and the seed of our running squashes do not fully mature until from one to four months have elapsed from the time they were gathered; so of the entire beet family of which mangolds are a class. In the sugar making countries of Europe, it is found necessary to store the sugar beet awhile, until certain changes shall have taken place in its nature, before it is in a condition suitable for use. So in the mangold, it is necessary that some important change should take place in its nature before it can profitably be fed to stock; if fed liberally, early in the season, it will scour the cows; feed ruta-bagas, carrots or cabbages early in the season, and feed the mangolds towards spring.

If planted before the first of June, the Long Red Mangold is apt to have a long, woody, hollow neck by harvest time. I would recommend the ovoid varieties as preferable in this respect, besides being of more compact growth, and having fewer lateral roots. The yellow Globe is an excellent sort for a sandy soil. If our farmers would be brave enough to have their rows thirty inches, and thin their plants to fifteen inches apart in the row, when young, they would find that they could do about all their tillage with the cultivator and hoe, while they would have just as much weight in the crop, and the pleasure of handling mangolds as big as their thigh, instead of as big as their arm.

As turnips are grown both for family use and for stock, we need to encourage good specimens of all sizes at our annual exhibitions. Of the Ruta-Baga or Sweede class, the best for family use is the white variety, known as "Sweet German." This excels in its sweetness, crispness and keeping qualities. It is also an excellent turnip for stock. The demand for this variety has increased wonderfully within a few years; whereas

twenty years ago it was rare to see a barrel of the white Ruta-Baga in Boston Market, almost all sold being of the yellow sort, now ten of the white may be seen to one of the yellow. Of the yellow varieties Skirvings has been exceedingly popular, but though it forms good bulbs, yet the long neck that goes with them is an objection, and Laings, London and Shamrock Swedes are now preferred.

In testing about a score of flat turnips, American and foreign, I have found our white and purple strap leaf the earliest, yet I think it is not generally known to our farmers that these are the most subject to the attack of the worm, of the whole class of flat turnips. Yellow Finland, Improved Yellow Globe, and Cowhorn are preferable in this respect.

Of onions, the standard for an excellent table article is found among those that are not over three inches in their greatest diameter, with a fine, close skin, thin, compact layers, a small neck, with the whole bulb feeling about as hard when handled as a stone. The Large Red Wethersfield onion is the latest in maturing, and a large percentage makes but scullions, even under the best of treatment, while the Early Red Globe grows to as large a size, crops equally well, and the onions are among the most symmetrical, and in earliness are among the earliest. For these reasons, as would be inferred, it is fast superseding the Late Red where it has been introduced. The Early "Cracker" onion, when I first introduced it to the general public, was remarkably early, but quite thin, and therefore would not measure well when marketed; for the past two or three years while retaining its earliness, it has grown much thicker, and now so closely resembles the old Flat or Strasburg onion, that the public would be decidedly a gainer if they would throw overboard that late variety, and substitute in its place the "Cracker," which matures fully two weeks earlier, a characteristic of vast value in short seasons to the onion farmers of the North. For general crop in Essex County the Early Danvers rules the market, and we know of no variety for a standard onion that deserves to replace it. The Potato

onion is the earliest of all varieties, and when used as early, is the sweetest and tenderest of all onions, but after summer has past it soon becomes tough and unsuitable for the table. I would advise all farmers to plant a quart or so of the potato onion setts to be used in the family before those raised from seed get sizable.

The largest cabbage of its kind is usually the best, and among our greatest cabbage-eating class the largest cabbage of the largest kinds always find a ready market. For these reasons it is desirable that we should encourage at our exhibitions the largest specimens of all varieties where such specimens have hard and handsome heads. The largest cabbage of its kind, other things equal, is the best, because to attain this extra size it must have grown faster than its fellows, and having grown faster it is therefore more tender, and being more tender under these circumstances it is also the sweetest. The Marblehead Mammoth is our standard large cabbage in Essex County, and when the market is within a few miles it is a capital sort to raise for our Irish and German brethren ; but where the market is more distant, or there is mostly a different class of customers, then the Stone-Mason and Fottler become standard sorts. For family use the Savoy family are decidedly the best, having that rich, marrow-like taste that belongs to no other class of cabbages. The early Ulm Savoy is as early or earlier than Early York, and with the Improved American Savoy is as reliable for heading as any cabbage grown. I have been experimenting with over sixty foreign and native varieties this season, of which I may have more to say at some other time.

When the Autumnal Marrow, or Boston Marrow Squash, as it is usually called, was first introduced, it was of small size, weighing about five or six pounds; it cooked very dry, was fine grained and of excellent quality. At the present time it is usually watery, often coarse grained and poor in quality; we have utterly lost its fine qualities for the table. Within a few years the American Turban as a fall squash, and

the Hubbard for winter use, have to a large extent replaced the Marrow upon our tables. In these two we find the chief good characteristics of the Marrow, when in its palmiest days, and in addition superior keeping properties which characterize these two fine varieties. As a general rule the Turban and Hubbard are too grainy in their texture to enter into the structure of that grand Yankee luxury a squash pie; for this the Marrow excels, and this, I hold, is now the proper sphere of this squash—it is now a pie squash. Where dryness, sweetness and quality for the table are sought for we find these, as a rule, in squashes of medium size, those weighing from six to ten pounds. This, therefore, I hold, should be the standard encouraged for a table squash. If we select large specimens for seed stock, we find in practice that there is more of sport in the crop, that the Hubbard gradually loses its shell and grows coarse in structure, while the Turban tends to develop the cross of the French Turk's Cap that is in its blood, which gives it size at the expense of quality. Because this is so, and because the temptation among market-men is to raise weight at the sacrifice of quality, I hold that our premiums should point emphatically to the correct standard of weight in these two prominent table squashes. Discussing the Marrow as a pie squash (and I find that the most intelligent of the market-gardeners around Boston agree with me), I hold that our premiums consult the best welfare of both consumer and producer, when they encourage the largest crop possible consistent with a sufficient fineness of structure for pies. It is my opinion that for this use the Marrow squash can safely be grown to average from twelve to fourteen pounds in weight. The idea entertained by many good farmers, that special aim should be made to grow the Marrow as small sized as formerly, when it was so excellent a table squash, based on the idea that by so doing we can get the old excellence back again, is a delusion, as is proved by the fact that with all the efforts in this direction the old excellence has not been recovered.

The annual exhibition of vegetables this season was hardly

up to the usual standard. We particularly missed the great variety usually displayed by Mr. Merrill, who for so many years has been the right hand of the society in this department. As the exhibitors had no standard in common to guide them while selecting their various kinds of vegetables for the Annual Fair, I hardly feel that the quality of the vegetables was open to criticism. There was a large variety on the tables and some fine specimens of the various standard kinds.

It would greatly improve our vegetable exhibiters if the same plan was pursued as has been adopted in the fruit department, that of offering special premiums for each standard vegetable, the number of specimens required of each kind to be stated, and the standard of excellence to be briefly given. The Massachusetts Horticultural Society has practised this in part for the past few years, with marked improvement in its annual exhibitions. In its printed programme the Society has confined itself to specifying how many in number or how much in measure of each vegetable was required to compete for the premiums offered ; I propose that our ancient society become a pioneer in a still further improvement, and fix a standard of excellence in the several vegetables so far as the characteristics that present themselves to the eye. The experience and good judgment of the vegetable committee of the Massachusetts Horticultural Society has usually assigned premiums to the most deserving of their kind, yet in their exhibitions anomalies have been presented that would be impossible under the more matured system that I propose ; such as prominent premiums assigned to overgrown potatoes, overgrown squashes, to Hubbard squashes that were but little more than half matured, the color being of a deeper green when in that stage; one year awarding premiums to the largest, coarsest onions— the next, to the ripest. I fully believe that our Society would promote the best interests of the community, and add much to the educating value of its exhibitions, if it would define in general terms what a premium onion, potato, squash, or other vegetable, must be.

There can be no good vegetables without good seed; and the more hands seed passes through before reaching the end of its journey—the seed drill of the farmer, the greater the chances are of its being too old, impure, or wrongly named. I hold, therefore, that the Essex Agricultural Society has done a wise thing in directing its attention of late years to the matter, and offering special premiums for seed grown within the limits of the county. It is very difficult for the farmer who has had the misfortune to handle worthless seed, to fix the responsibility on any one; it has passed through several hands, and "he told me so," is the catch phrase of the entire series; but let the seed be grown in his own neighborhood and the direct responsibility is a powerful stimulus to the utmost honesty and highest care on the part of the grower, while it proportionally increases the confidence and profits of the planter. There are three positions taken by prominent societies in New England in respect to the exhibition of vegetable seed: the Massachusetts Horticultural Society not only does not offer any premiums for vegetable seed, but goes farther than this, and positively refuses to have any exhibited on its tables. As several of the prominent men who are active members of that society are seed dealers this action appears anomalous; but a knowledge of the fact that under the by-laws of that society the exhibitor must have grown his own seed, naturally tones down all surprise. The New England Society offers premiums simply for garden seed, without any condition that it shall have been grown in or out of New England, or that the exhibiter shall have raised a grain of it. The obvious effect of such a course is simply to encourage the production of seed as a commercial article. Our own Society in offering premiums for a home grown product, encourages a very important branch of agriculture in our midst, annihilates the vast intervals that usually exist between the producer and the planter, and keeps a wholesome responsibility within easy access of the purchaser.

For the Committee—James J. H. Gregory.

COUNTERPANES, CARPETINGS AND RUGS.

The Committee on Counterpanes, Carpetings and Rugs, would respectfully report:

There were no Carpetings offered. For Rugs and Counterpanes the following gratuities were awarded, viz:

To Mrs. Frederick Knight, for a rich silk Quilt, $2.

To Mrs. N. F. Mussey, for two silk Quilts, $1.

To Sarah Donnels, for white Quilt, 50 cents.

To Hannah B. Griffith, four years old, 50 cents.

To Mary E. Pulsifer, for Quilt, calico, 4290 pieces, 50 cents.

To Mary P. Merrill, woolen Quilt, 1572 squares, $1.

To Emma Josephine Hill, 9 years old, for Quilt, 50 cents.

To Mrs. Charles Ireland, for white knit Quilt, $1.

To Mary A. Cilley, for two braided Mats, $2.

To Mrs. George Stover, for braided Mat, $1.

To A. E. Clement, for one Rug, 50 cents.

To P. Jewett, 70 years old, for Mat, 50 cents.

To Mrs. Albert Delano, for Rug, 50 cents.

To Mrs. Joseph Merrill, for Rug, 50 cents.

To Ellen M. Sawyer, for Rug, $1.

To Sarah L. Cumming, for Rug, $1.

To Mrs. Allen Brooks, for two Rugs, $1.

To Eliza A. Greenleaf, for Rug, 50 cents.

To Mrs. L. Crane, for Rug, 50 cents.

To Mrs. John T. Page, for Rug, 50 cents.

To Mrs. L. M. Hodges, for Rug, 50 cents.

To Mrs. H. M, Friend, for Rug, 50 cents.

To Mrs. E. F. Emery, for Rug, $1.

To Mrs. Parker Tilton, for Mat, $1.

To Mrs. Sarah A. W. Dodge, for two braided Mats, $1.

To Rachel Emerson, for Mat, 50 cents.

To Mrs. Charles Ireland, for two Rugs, $1.

To Mrs. Caroline C. Wigglesworth, for Rug, $1.

To Miss Frances Safford, for Rug, 50 cents.

To A. A. Jackman, for Rug, 50 cents.

To Mrs. Mary Titcomb, 81 years old, for two Rugs, $1.

Committee—E. S. Sweetser, Richard Plumer, B. E. Fifield.

ARTICLES MANUFACTURED FROM LEATHER.

The Committee were disappointed in not finding a larger display in this department, and did not feel justified in distributing the amount allotted them. After careful examination we award the following gratuities:

To J. H. Walton, for Light Harness, $5.

To E. P. Dodge & Co., for Ladies', Misses' and Children's Boots, $4.

To N. B. Dodge and Brother, for Ladies', Misses' and Children's Boots, $3.

To Crockett & Lakey, for Belting, $2.

Committee—Henry Hobbs, Farnham Stiles, George French, Aaron Sawyer.

FANCY WORK.

The Committee submit the following awards :—

Gratuities.—Amanda O. Pearson, Newburyport, picture frame, $1 ; J. A. Allen, Newburyport, flowers, 50 cts.; Anna J. Peabody, pictures, $1.; Charles A. Minerth, insects, $1.50; Karl Minerth, photographs, $2 ; J. E. Clifford, shell work, $1; Lillie C. French, pictures, $1; Mrs. A. R. Jackman, edging, 75 cents ; Miss A. E. Currier, sofa pillow, $1 ; Miss Tilton, pictures, $1 ; Mrs. Sarah Colby, knit shawl, 75 cents ; Mrs. J. M. Spalding, wax flowers, 75 cents ; Mrs. Curtis French, lace work, 75 cents ; Robt. Babson, engravings, &c., $3 ; J. G. Silloway, ottoman covers, $1.50 ; Mrs. Jacob Johnson, masonic emblems, 75 cents ; Mrs. Thomas Cutter, carpet bag, 75 cents ; Eliza J. Trask, Peabody, ottoman cushion, $1.50 ; Mrs. P. H. Lunt, Newburyport, pictures, $2; Miss J. N. Balch, pictures, &c., $1 ; Lillie French, painting, (strawberries,) $1 ; Sarah F. Tilton, cross and wreath, (wax,) $2 ; Miss Kelley, game birds, $1.50 ; Lizzie Ireland, cushion, premium, $2 ; and

50 cents each to the following persons: Miss E. Spalding, ottoman cover; Nellie C. Clark, slippers, &c.; Anna L. Knapp, tatting; Mary J. Ingraham, pictures; Frank N. French, insects; George Osgood, case of bugs; J. S. Gerrish, baskets; Mrs. R. Jackman, insects; Hattie C. Bartlett, ottoman; Mrs. Mary Merrill, 89 years old, stockings; S. Carrie Nelson, tidy; Mrs. John Burrill, flowers; James Devereaux, picture; Mrs. J. Johnson, Jr., wreath and frame; Mrs. E. Lunt, embroidery; Miss H. Brown, watch case; Augusta Cook, shell frame; Mary C. Currier, cushion; Mary L. Dockham, frame and basket of flowers; M. J. Brookings, tidy; Abbie E. Smith, sea mosses; Mrs. Tristam Rogers, 94 years old, stockings; Nellie A. Pike, cushion; Mrs. R. J. Lamb, blanket; Annie M. Little, husk frame; Carrie R. Lecraw, infant's bibs; E. G. Cheever, shell boxes; Mrs. J. Lunt, cushion; John A. Addie, inlaid work; Lydia H. Ordway, 83 years old, stockings; Anna L. Currier, baby clothing; S. Sawyer, pictures; Annie Rogers, lace collars; E. J. Roof, tidy; Fannie E. Talbot, bead cushion.

Committee—H. G. Herrick, Geo. W. Chadwick, Sam'l A. Smith, Richard Tenney.

FARMS.

The Committee on Farms would respectfully report:—

Notwithstanding the urgent calls of the committees, and the liberal offers of the Society for the last few years, the number of farms entered for premium is by no means increasing. The general business of farming which prevailed until a recent period, and which developed some of the finest specimens of mixed farming in the Commonwealth, is now displaced to a considerable degree, by a special attention to particular crops, or by a tasteful improvement of valuable estates. The production of garden vegetables for the market, both early and

late, occupies the attention of most cultivators residing near our large cities. And as the wealth of our county increases, the number of elegant residences ornamented by landscape gardening, and surrounded by fields subjected to expensive culture increases also. Meanwhile the farms which were once managed by husbandmen, who took pride in their working oxen, and dairy herd—in their ample fields of corn and grass and potatoes—in their orchards bending beneath the weight of fruit—and who sent beef, and hay, and pork, and butter and cheese, and apples and cider to the market, are fewer than they once were, and are not, in many instances, conducted with the industry and skill of former times. While this change in the condition of agriculture has been going on, agricultural emulation and rivalry have declined, and the business of horticulture has become more prominent.

The importance of encouraging this modern system of farming should not be lost sight of. The devotion of lands, in small parcels, to special crops, is especially necessary, where a large portion of the population is occupied in mechanical and manufacturing operations—and own no land, raise no vegetables and fruit for their own consumption, and should find a well-supplied market. Vegetables and small fruits are produced in such limited quantities that they are a luxury, beyond the reach of many of the laboring classes. This state of things should no longer exist. And we urge upon all owners of land special attention to those crops which are required in the markets of our manufacturing and commercial towns. We trust, moreover, that the competition among small farms devoted to this object, will increase, and that committees will, hereafter, be called upon to examine and report upon numerous entries of this description.

The only farm entered for premium this year is the estate of Dr. E. G. Kelley, of Newburyport. The careful management and cultivation of this tract of land, (about sixteen acres,) were a source of great gratification to the committee, as an illustration of the ample reward which a skillful cultivator of

trees and fruits will receive, even in a few years, and of the advantage to be derived from proper preparation of the soil, and from the destruction of weeds, and the appropriate use of fertilizers.

The following statement of Dr. Kelley gives a clear and admirable account of the processes to which we have referred:

STATEMENT OF E. G. KELLEY.

In presenting a farm for premium the following are the printed conditions:—"For the best conducted and most improved farm, taking into view the entire management and cultivation, including lands, buildings, fences, orchards, crops, stock, and all other appendages, with statements in detail, relating thereto."

Our management and cultivation of lands has been to underdrain about six acres with tiles, transported chiefly from Albany, N. Y., and laid more than three feet deep on an average: to surface drain five acres not admitting of tile draining: to subsoil two acres, twenty-two inches deep: to trench three feet deep, four acres in all, at different times as labor could be spared from other work; and for some years the trenching was being done nearly all winter.

Hundreds of loads of clay have been moved to divers places, and thousands of loads of sand and yellow loam have been carted on to, and mixed with, clayey soil, or used for top dressing, or for levelling and grading. The land thus worked has been so much improved as to produce almost anything in perfection adapted to the climate.

Cultivation on this place having been decidedly bad for more than half a century, a change was of course made. Your Committee well know how a farm runs to waste and weeds, when conducted by others than the owner. The previous proprietor died in 1806, leaving the use of the estate for the support and maintenance of a daughter, who at length died in

1852, when we purchased it. A more dilapidated, neglected, and exhausted Sahara could not well be found.

To give minute details of every renovating process could not have been intended by the requisitions. We will, therefore, only cite a few operations. Weeds were exterminated in time by not allowing any to mature. Grass was cut early for the best hay, particularly if it contained "white weed," which being propagated by seed was thus yearly lessened. "Dog grass," and other noxious perennials were completely eradicated from arable portions by thorough digging up and securing their roots. All annual weeds were uniformly raked up, but were never saved for manure. We were consequently soon troubled by succession, only from seeds wafted from the premises of our otherwise good neighbors, or deposited by the numerous birds. Moreover, we seldom used any manure besides wood ashes—the best nutriment, by the way, for all vegetation, and free from weed seeds.

Tilling the soil was early, frequent, superficial or deep, according to circumstances. Trenched or drained and subsoiled land can be worked quite early in the spring, and does not require to be often repeated during the season, and vice versa. Continual growth and successful crops, notwithstanding drought, are also sure and gratifying, as well as the annual saving of labor. Properly prepared soil, planted, and free from weeds, receives, therefore, but little subsequent stirring, and that chiefly for hilling. We plant potatoes, corn, etc., in drill rows, the former six or eight inches apart in the furrows, and at the usual time of hoeing form the continuous hill row, and turn back the same soil in the fall, with the plough, thus obtaining more produce with given land and labor.

Of the buildings—the house was not made by modern hands, but in 1776; is fifty feet square, with white oak frame, high studded, and filled in with bricks, and having been modernized inside and out, is now faultless. We built a barn same size, the most economical form and most convenient for interior arrangements. The ample cellar is a substitute for out-

houses, and we would build another barn, or even larger, if necessary, to contain all carts, implements, etc., too often left unhoused, or more or less exposed to the weather in sheds.

We removed at once all division fences, and have only the boundary line fenced. Some 300 feet of this has stone posts set five feet in the gravel ground. Another, 400 feet, has large stones on the surface of clayey soil, ten feet apart, with one and a half inch iron posts sulphured in to drilled holes; and these, together with the rails and slats, rise and fall with the freezing and thawing clay. This novel and useful fence, and that of the stone posts, give great satisfaction. A live fence of the honey locust is also being tried. Other fences are of the usual varieties.

An old apple orchard has been rejuvenated by draining, trimming and grafting. Several trees grafted with the Hubbardston Nonsuch bore so profusely as to destroy their vitality. We have forty varieties, many of them on paradise stocks, which gives a smaller tree, but larger fruit. Many pear trees are also in this orchard.

The exclusive pear orchard is well drained and trenched, with horn piths thrown in from one to three feet below the surface, as a permanent phosphate manure. We have 75 varieties of the fruit comprising the kinds we think most worthy of cultivation. Each year, however, we think more of standards and less of dwarfs. The former, particularly of the Lawrence, do as well in grass ground as the apple tree.

Crops have not as yet been raised to sell, with the exception of hay, which, on the prepared land, is fourfold compared with former cuttings. Crops for domestic use are grown—corn and carrots for horses, turnips and beets for cows. All are in abundance and indispensable.

Stock generally consists of a pair of horses and two cows. The latter have been "soiled" during the summers for three years, and the practice is quite satisfactory. They are contented, thrifty, give more and better milk.

"Other appendages" with us must be trees, hedges, ponds

and glass houses. Of the former there is a supply, and evergreens predominating, they have naturally given the name to the place. So numerous are they that they protect each other and all about them. As screens to secure and perfect fruits, they are of great service, unless the source of too much dampness. It is incredible to an unobserver of the facts, how perceptibly masses of trees affect temperature and moisture. Where land is plenty and cheap it is singular that groves and screens are not oftener planted.

Where trees are trimmed to hedges, they become ornamental divisions, or borders, are easily cared for, and add much to the value of any place. We have hedges of the Norway spruce, hemlock, arbor vitæ, holly, weigelia, honey locust, and cornus sanguinea.

Artificial ponds, like hedges, on a place called a farm, may be viewed by some as superfluities. To others they are a great source of pleasure, and not unprofitable. We long since discarded the dunghill fowl as too troublesome, and find water fowls more remunerative in themselves, while they decoy valuable wild game instead of hawks. The question has also been settled by cultivators of fish, that an acre of water surface may be made to pay better than an acre of land merely.

Glass houses also compensate, except to the exclusively utilitarian, whose income is only in dollars and cents. We have been many years building three of these, thereby obviating much extra labor, and at the same time have some of the most scientific and convenient structures in the country, unsurpassed for the purposes intended. We thus have employment for self and family the year round, and with only one man for help, quite enough of a good thing—care.

It might be deemed presumption to present a farm of sixteen acres to the consideration of your Committee, had not one of only fifteen been offered and accepted last year. It is, however, on the idea of "ten acres enough," "a small farm well tilled," and the like, that it is undoubtedly justified.

Our profit and excellence, if any, have not been in the

many acres carried on by numerous hired men, with a list of merely profitable and perhaps forced crops, without annual and permanent improvements. On the contrary, we have only put in practice our theory advanced some twelve years ago, in the annual address before the Society, on Home Improvement.

We have perfected a few acres, doing the right thing at the right time, and added so much to their nominal and real value for the comfort and tastes of life, that for the original outlay and subsequent expense, a present market price might show a profit not exceeded by any other land operations.

The Committee award to Dr. E. G. Kelley the first premium of $30, and diploma.

Committee—Wm. Sutton, George B. Loring, Charles P. Preston.

IMPROVED PASTURE LAND.

The Committee on Improved Pasture Land have attended to their duty and report:

One entry only was made—that by Mr. Gilbert Conant of Ipswich.

The pasture which Mr. Conant offers for a premium, contains thirty acres, which from present appearance must have been pretty nearly covered with bushes at the time he commenced his improvements. The Committee, three in number, examined the pasture June 30th, and found there had been quite an improvement effected by the course which Mr. Conant has adopted, that of simply burning. We found quite a number of spots in the pasture where the bushes were wholly killed out, and in course of time we think he will overcome them entirely.

We unanimously recommend the award of the first premium of fifteen dollars to Mr. Conant.

For the Committee—H. L. Moody.

STATEMENT OF GILBERT CONANT.

I would hereby respectfully inform you of my intention to enter for premium about thirty acres of old pasture lands, upon which for the last five years I have been making improvements in order to increase their value for pasturage. At the time that I commenced improvements upon these lands, they were mostly run over to bushes, and were of but little value for pasturage. One piece of them containing ahout twenty acres, previous to that date had been let for several years at eight dollars per year. Now it will pasture five cows well. My improvements upon the remainder of said lands have been equally successful. My method of renovating these lands has been by the process of burning. This I have continued from the commencement of my experiment, every year when a fire could be made to run. These lands are a part of my farm in Ipswich, and are situated near my dwelling house. I will hereafter give you a detailed statement of my experiment in renovating them, the expense of which has not amounted to five dollars a year.

MANURES.

The Committee on Manures have received but one invitation from the farmers of Essex to examine the progress and results of experiments with manures or commercial fertilizers. The farm of Wm. R. Putnam, of Danvers, was visited by his request in September, and some crops upon which he had applied various kinds of fertilizers were examined. Mr. Putnam has handed us a report of these experiments, which we herewith transmit for publication. Mr. P. deserves commendation for his zeal and painstaking in procuring and applying to his crops some of the well known compounds, called fertilizers. In examining the crops to which they had been applied, but little

new information was obtained, and but few useful facts were deducible. In fact, what can be learned from the experiment of seeking, in the market, a mixture called "Croasdale superphosphate," or "Baugh's raw bones," or any other "raw bone" compounds, and applying them to a few rows in a corn field or potato patch? In the first place, who knows what the raw bone mixtures, or "superphosphates," are made of? Certainly, the experimenter does not. It is apparent, then, that the experiments must be empirical, inasmuch as the substances experimented with are of unknown fertilizing value. The "phosphates," or bone mixtures usually possess no uniformity in composition. One farmer may be lucky enough to secure a barrel or two of the substances in which a considerable amount of plant nutriment is found; another may purchase packages of the same brand, which are almost wholly destitute of the phosphatic or nitrogeneous elements, and are therefore practically valueless. These, employed in the usual empirical way, of course give varying results,—results which are better calculated to confuse and perplex, than to instruct.

But if the fertilizers we employ are honest mixtures, and have a fixed value, how much positive practical information can we gain, from applying them in a small way, in our fields, without taking into account some important considerations which are usually overlooked? It is true, if we thrust the "raw bone" into the hills of one row of potatoes, and leave the next one without the mixture, we can measure and weigh at harvest time, and thus obtain results from which to form wise conclusions, or dogmatic opinions. These results, however, must be regarded as blind guides. Any experiments in husbandry which do not extend over a period of time exceeding one or two seasons, and which do not take into account variations in soils and meteorological conditions, are practically worthless. It appears to your Committee, high time that the intelligent farmers of Essex abandoned the "irregular," uncertain, empirical methods of experimenting with fertilizers, and adopted a form better calculated to advance true knowledge in

respect to the greatest interests of agriculture. In the first place, the materials experimented with should be definitely understood. In phosphates, the exact percentage of soluble phosphates of lime contained in the fertilizer should be known, and also the amount of free ammonia, or ammonia forming constituents. If substances containing potash or soda are employed, a knowledge of the exact percentage of these alkalies also should be had. With the best and most appropriate materials in our hands, we do not obtain in one or two seasons, even a proximate knowledge of how much actual value they may be to our crops. A dry season may prove entirely unfavorable for the appropriation by plants of any one element or compound, or a wet season may produce like results. If a farmer should judge of the influence of a phosphate upon his corn in a dry season, he might be led to condemn one year a material, which in the next, would prove his most efficient and prompt friend. When we bury in our soils a fertilizing agent, it is quite uncertain when we shall receive back the value, or thrice the value in increase of crops. If we are *sure* we have got the genuine agent there, and in an assimilable condition, we need have but little solicitude concerning ultimate good results. Five years is short time enough to conduct experiments with fertilizers to reach ends, or obtain results worth publishing to the world. Much of the confusion existing among soil cultivators regarding the value of fertilizing agents, arises from the incomplete, unfair, unscientific "trials," or experiments made. The public taste is so perverted, that all statements of this nature given in the agricultural papers, are read with a peculiar relish. If a farmer is anxious to see his name in print, let him buy a peck of "raw bone phosphate," or "patent guano," sprinkle it in a few hills of corn, or in the turnip drills, and in the autumn send the "results" to the nearest journal. The fame, although short lived, will be cheaply bought. With the care, accuracy, and completeness of detail demanded of experimenters in every branch of science, in this age of the world, it is a pity that we should not improve our

methods in all departments of husbandry. Before scientific agriculture can rise to a point worthy to command confidence and respect, this must be done.

In behalf of the Committee — James R. Nichols.

STATEMENT OF WM. R. PUTNAM.

It is with some reluctance that I make public my experiments with manures. I regret that my crops were not seen by the Committee earlier in the season; coming as you did, just after the severe gale, you had not so good an opportunity to judge of the effects of different kinds of manure as you would have had before the gale.

If I rightly understand the object of the Society, in offering this premium, it is to collect and publish such information upon the use and the effects of different kinds of manure, as will enable the farmers of the county to judge better what kinds of manure to use. If in my statements I can furnish a peg for you to hang your report on, I shall be satisfied.

Early in April last, when planting peas, part of the piece was manured with good manure made by the horses, cows and sheep, applied at the rate of six cords to the acre; to the remainder I applied Croasdale's Superphosphate at the rate of four hundred pounds to the acre,—this costs about three cents per pound, and it is said that it is one third Peruvian Guano, and the remainder mostly mineral phosphate from South Carolina. The peas were as early and produced as well as those that were planted upon the manure.

Some of the farmers in this vicinity have been using pine sawdust from the saw mills for bedding for their stock. Does it injure the manure? is a question that I should like to see settled by a course of well conducted experiments. Last February I spread about ten bushels of sawdust that had been partially dried, on the floor of my sheep pen, then covered it well with hay so that the manure would not mix with it, the

sheep were kept upon it till the last of April, when it was well saturated with urine, this was mixed with some sawdust that had been used in the stable and well wet with the urine from the horses. I planted peas upon it; they came up, but did not grow much. By digging and examining them, I found the rootlets avoided the sawdust, and got their nourishment from the soil beyond it.

The first week in May I planted a field of potatoes; part of it being manured at the rate of six cords of manure to the acre, which was a compost made by mixing three cords of barn cellar manure with three cords of meadow muck. This was put in the drills on part of the field, and by the side of it I applied Croasdale's Superphosphate at the rate of four hundred pounds per acre. The same kind of seed was used, (the sebec) those on the manure yielding at the rate of 256 bushels to the acre, and the phosphate giving at the rate of one hundred and twenty-two and one-half bushels per acre. Those on the phosphate came up first, and were of a deep green color in June, in July they rusted. On one acre of the same field I spread six cords of manure, of the same kind as the other, and harrowed it in. It was then marked out in drills, three feet eight inches apart, and planted with Harrison potatoes. On twenty-four rows I put one hundred pounds of Peruvian Guano, costing five cents per pound; two rows were left without additional fertilizers; the next twenty-four rows had one hundred and fifty pounds of Croasdale phosphate costing three cents per pound. The acre yielded three hundred and fifty bushels. In the first part of the season, where the guano was applied, the vines were much the largest, and I thought before I dug them that the guano would increase the crop twenty-five per cent, but when they were harvested, I had as many bushels of marketable potatoes in the two rows that were left without it, as in the others. They were uniform in size, though not near so many in number. By measurement, I find that one hundred pounds of guano gave me five bushels of small potatoes and a great heap of vines, the phosphate gave three bushels of small

potatoes and about half as much increase of vines as the guano.

In the corn field which you saw, I applied different kinds of manure, but it was so much injured by the wire worms in the first part of the season, that I cannot give any acurate statement. But the guano, and the phosphate gave only about half as much corn as the stable manure. That on the fish guano, where it was not injured by the worms, did well.

The manure on the field of ruta baga turnips, which you saw, was prepared as follows: To three cords of meadow muck, I added one cask of lime, twenty bushels of ashes and four hundred pounds of ground bones. In the four first rows we used the mixture at the rate of six cords to the acre. The first row yielded twenty-two bushels, the next seventeen bushels. I account for this difference by the fact that the first got some benefit from the manure upon the cucumbers that were planted by the side. On the fifth row we put two-thirds of the quantity of this mixture, and added twenty pounds of Fales' fertilizer, costing three cents per pound. This produced seventeen bushels. On part of the field, a compost made of barn cellar manure and meadow muck was applied at the rate of four cords per acre, and twenty pounds of Baugh's raw bone, (this bone is prepared at Chicago) and costs three cents per pound. Where this bone was added to the compost, the turnips were the best in the field; twenty pounds of this bone produced one hundred and fifty pounds of turnips. On this piece, containing about two-thirds of an acre, we had three hundred and thirty-seven bushels.

If I had not already made this statement too long, I might speak of the effects of different kinds of manure upon the squash crop and the cabbage.

MANUFACTURES AND GENERAL MERCHANDISE.

The Committee on Manufactures and General Merchandise

have attended to their duties and submit the following report:

Chute & Parsons, Peabody, Refrigerator, Sanford's Patent, gratuity, $3; Starrett, Newburyport, Meat Chopper, gratuity, $1; Hale & Co., Newburyport, Clothes Wringer, and Egg Beater, $2; C. R. Smith, do., Washing Machine, $2; Mrs. S. Richardson, do., Bonnets and Millinery Goods, premium, $2; D. H. French, do., Stationary, gratuity, $2; Edward Donahoe, do., Horse Shoes, gratuity, $1; H. McGlue, do., do., $1; Thomas G. McGlue, do., do., $1; Brown Manufacturing Co., do., Fire Arms, gratuity, $1; Nathaniel Morse, do., Posts &c., for Stair Work, gratuity, $3; H. W. Hurd, do., Weather Strip and Door Bells, $1; Jordan D. Frost, do., Stoves, $2.

Signed by Committee — Warren Ordway, Charles G. Savory, Sidney C. Bancroft.

ROOT CROPS.

Your Committee, to whom were entrusted all the entries, in this most important branch of the Agricultural interests, of Essex County, would submit the following report. There were thirteen entries of crops as follows, viz:

3 of Potatoes by Messrs. Phelps, of North Andover; Perkins, and Longfellow, of Newbury.

2 of Ruta Bagas by Messrs. Longfellow, of Newbury and Newhall, of Newburyport.

2 of Onions by Messrs. Ilsley, of Newbury, and Gregory, of Marblehead.

2 of Cabbages by Messrs. Newhall, of Newburyport, and Gregory, of Marblehead.

2 of Squashes by Messrs. Newhall, of Newburyport, and Gregory, of Marblehead.

1 of Mangle Wurzel by Mr. Newhall, of Newburyport.

1 of Carrots by Mr. Gregory, of Marblehead.

Representing the towns of North Andover, Marblehead,

Newbury and Newburyport, on the outskirts of the County, and leaving the great central farming towns not represented. The entries, though more numerous than for several years, are still far below in number what we could have wished, and what we have good reason to expect, when we take into account our County's fame abroad as one of the largest onion, cabbage and carrot growing counties in the United States.

Unlike many of our predecessors on this Committee, who have been content to examine statements only, we have visited and seen all the crops, with one exception, growing upon the land ; and there were never less than four of the Committee present, and can truly testify that the incidents and facts elicited, and the appearance of the crops well repaid us for our visits, — especially when we take into account the great drought, which prevailed throughout our County, during the most important part of the growing season, materially lessening the amount of most of our crops ; indeed, the only crop not so effected, was the crop of Early Goodridge potatoes entered by the Masters Phelps, which was planted early, and the most of them harvested by the first of August. Had this crop been planted later, it would have felt the drought more than any of the others, as it was planted upon a run-out piece of land, the most of which being a gravelly knoll, ploughed very shallow the previous autumn,—the last spot to have selected upon which to grow a crop for premium.

The young men (who are under 18 years of age) should have credit for the excellent appearance of the crop, they having performed all the work done upon it ; and that for once at least, there has been entered upon our records for premium, a crop grown upon soil that so fairly represents in quality, a large proportion of the farming lands in this County.

The potato crop of Mr. Perkins, of Oldtown, was visited on the 29th of September, —this was upon soil almost directly opposite of the preceding, at least in regard to its present condition, if not naturally so, as it had been used for onions for over thirty years ; the excellent care it had, and being planted

with the Harrison, a potato famous for its productiveness and good looks, both of vine and seed, (though for what else your committee are unable to state,) the yield was enormous, being at the rate of 410 bushels to the acre; and even this yield would have been exceeded, had not the drought caused the formation of small potatoes above ground, on at least one-sixteenth of the vines; thereby rendering unmarketable *all* the potatoes growing on the *vines so effected*, which was plainly visible to the Committee as they passed over the ground.

The crop of Early Michigan potatoes, a new and valuable variety, entered by Mr. H. F. Longfellow, of Byfield, was an excellent crop; it was grown on land in good condition, and well suited for such a crop. Mr. L. supposed when he entered it that there was a half acre as required by the Society's rules, but it was found after our visit to contain but 65 rods, thus excluding it from a premium. As it is a new variety of superior quality, as tested by your Committee, we feel that it deserves a notice here at this time, while there is such a rage for new potatoes. The piece was shaded on one side by six large apple trees, which would have been 14 trees to the acre, which affected the quantity of the crop reported by him as at the rate of 257 bushels to the acre.

RUTA BAGAS.

Mr. Longfellow's crop of these roots, in an adjoining field comprising three acres, was well worthy of entry, and of which he entered one acre, that in his report yielded at the rate of 56,580 pounds. The piece entered by Mr. Joshua L. Newhall, and visited by us a fortnight earlier, did not then promise so large a crop as the above, though its yield was large, at the rate of 39,840 pounds to the acre.

ONIONS.

The acre entered by Mr. Paul M. Ilsley, of Oldtown, was visited on the 29th of September; the onions were then pulled and spread over the ground, which was well covered and was the largest yield for the uniform quality, that most of the members of the Committee had ever seen, assuring us that

the crop returned by him, of 610 1-2 bushels to the acre, is a true one.

CABBAGES.

Of these there were two entries, one by Mr. J. L. Newhall, the other by Mr. Gregory, they were both excellent crops and should not have been entered for the same premium, as they both excelled in the purpose for which they were raised. Mr. Newhall's for the market were as near together as they could possibly be and do well. Mr. Gregory's, on the other hand were grown at equal distances, with good space for them to perfectly develop, which they had well improved and were as handsome and uniform a crop as any one could have desired to look upon, all of a kind, with no mixture or cross in the different pieces, as there was some ten different pieces of as many different kinds; all to be put under ground for the winter, from which to raise seed the next season.

CARROTS.

There were four different varieties of carrots growing on one lot which was entered by Mr. Gregory, and was well worthy of the premium.

SQUASHES.

The two crops entered were both of the Marrow variety. Mr. Gregory's crop was seen at his squash house, and Mr. Newhall's was viewed upon the vines the 16th of September, a large and handsome crop and remarkably free from mixture. He had a piece of Hubbard's at some distance off, which we had not time to go and see.

MANGLE WURZELS.

The acre of mangle wurzels, entered by Mr. Newhall, was a remarkably large crop, especially for this year. There must have been great care taken in sowing and thinning out the crop, as there was none of those blank or barren spaces so noticeable in a patch of this kind of root, and we consider them fully worthy of the Society's diploma and premium of eight dollars.

Before completing our report, we cannot but add that we have been well paid in our migratory rambles about the County, in viewing the various modes of cultivation and listening to the remarks, suggestions and facts that we have heard at our various meetings, and wish that more members of our Society could have been present, especially at our last meeting on the 6th of October, at the farm, or rather farms of Mr. Gregory at Marblehead, where all the crops are raised for seed, and all have a chance to fully develop on those rich, strong lands where the stable, factory and sea manure is used without stint, — as any one would have been convinced at the sight of the heap of 150 cords of manure that Mr. Wilkins had already got together on one of the lots of the Wyman farm.

The Committee would recommend that the Masters H. L. and W. W. Phelps, of North Andover receive the diploma and first premium of $8, for their crop of Early Goodridge potatoes, 320 bushels to the acre, and that Mr. Charles L. Perkins, of Newbury (Oldtown) of $5 for his crop of Harrison potatoes at the rate of 410 bushels to the acre.

To Mr. Joshua L. Newhall, of Newburyport, the diploma and $8 for his crop of marrow squashes.

To Mr. J. J. H. Gregory, of Marblehead, the diploma and premium of $8 for his crop of cabbages.

To Mr. Paul M. Ilsley, of Newbury (Oldtown) the diploma and $8 for his crop of onions.

To Mr. Gregory the premium of $8 and diploma for his crop of carrots.

To Mr. Joshua L. Newhall, the diploma and $8 for his crop of mangle wurzels.

To Mr. H. F. Longfellow, of Byfield, the diploma and first premium of $8 for his crop of ruta bagas, and to Mr. Newhall, of Newburyport, a second premium of $4 for his crop of the same.

Committee — Andrew Nichols, W. W. Perkins, James Flint, John Stone, Barnard Stanwood.

STATEMENTS OF H. L. AND W. W. PHELPS.

The acre of land entered by the undersigned for premium, is situated on the south side of a hill. The soil is a gravelly loam, with here and there a slight mixture of clay. Grass has been the annual crop since 1856, and in 1867-8 was hardly worth cutting, as no manure had been applied for several years. It was ploughed once, about six inches deep, late in the fall of last year; cost $5. Harrowed early last spring; cost $1. As soon as harrowed, eighteen loads of well rotted manure were hauled upon the ground, and piled; estimated value $35. The potatoes were planted April 16, 22nd. The land was furrowed, making the furrows four feet apart and eight inches deep; the manure was spread evenly along the furrow, and the seed which had been cut, leaving but one eye on a piece, was dropped upon it about nine inches apart, and covered four inches deep. Five bushels of seed were used, four of Early Goodrich and one of Garnets Chili, costing $1 per bushel; cost of planting $15. May 27th and 28th it was cultivated with a horse hoe, and hoed, the potatoes at that time being about six inches high. June 10th and 11th it was ploughed and hoed. This being the last hoeing, they were hilled as much as possible; cost of cultivation $12. July 21st, and August 25th, dug 21,600 pounds of potatoes, of which 320 bushels were merchantable.

The above statements are correct, to the best of my knowledge. W. J. Dale, Jr.

North Andover, November 9, 1869.

STATEMENT OF CHARLES L. PERKINS.

The land upon which the potatoes were grown, which I offer for premium, is a dark, gravelly, loamy soil; has been planted with onions the last thirty years, with the exception of last year when it was planted with Sweede's turnip. The piece of

ground contains one hundred and eighteen rods, was manured the first week in May with three cords of barn yard manure, ploughed seven inches deep, harrowed with an iron tooth harrow and brushed twice over with a brush harrow, drilled three feet apart and planted with three barrels of Harrison potatoes. The seed potatoes were cut, and two small pieces, or one large piece put in a hill. The expense of cultivating, as near as I can estimate, was :

For hauling and spreading manure,	$3,00
Ploughing, harrowing and drilling,	4,00
Planting $1.50, cultivating and hoeing twice, $5,	6,50
Harvesting,	10,00
	$23,50

From some cause, perhaps owing to the drought in July and August, the tubers formed on the joints of the vines, thus reducing the crop considerably. The hills, where the potatoes formed on the vines, outside of the hills, did not yield more than half as much as the hills where the potatoes formed inside. The potatoes weighed 18,172 pounds, at sixty pounds to the bushel, there is three hundred and two bushels and fifty-two pounds.

STATEMENT OF H. L. LONGFELLOW.

To the Committee on Root Crops :

Gentlemen : The lot of land on which I raised the potatoes, offered for premium, falls short of the half acre required by the rules of the Society, the whole lot measuring but sixty-five rods. But since you have taken the trouble to view the crops I feel in duty bound to give you the result of the experiment.

The land was broken up in June, 1868, and sowed with Ruta Baga, manured with ten loads of compost, thirty bushels to the load. For the present crop, fifteen loads, (thirty bushels to the load) of barn yard manure spread broadcast and ploughed six inches deep, furrowed three feet apart and planted the

4th of June with "Early Michigan" potatoes, three feet apart in the furrows, hoed the 2nd of July. Amount of crop on sixty-five rods 104 2-5 bushel; 256 64-65 bushels to the acre. The piece was shaded by six apple trees.

COST OF CROP.

Fifteen loads manure,	$30,00
Ploughing and furrowing,	2.00
Planting,	1.50
Three bushels "Early Michigan" seed at $2,	6,00
Cultivating and hoeing,	3,00
Harvesting,	5,50
Interest on land,	3,00
	$51,00
Cr. by 104 2-5 bushels potatoes a $1,	$104,40

You will notice that I reckon my crop at $1 per bushel, which is a very low figure. I think it will sell very readily in the spring at $2 per bushel, as it is a very early variety, requiring but two and one-half months from planting, to be fit for the table, and are of a very superior quality.

STATEMENT OF J. L. NEWHALL.

Statement of a crop of squashes raised by J. L. Newhall, of Newburyport, 1869. The crop of 1867 was grass, without manure, the crop of 1868, one half grass without manure, the remainder squashes and potatoes with manure at the rate of four cords per acre, applied in the hill, the soil is a gravelly loam; the land was ploughed in the fall and again in the spring, about five cords of manure was ploughed under at the last ploughing, and two cords applied in the hill at planting. Value of manure on the land, $56; cost of ploughing and planting, $6; cost of cultivating and harvesting, $18.

Product of 140 1-3 rods, 9 tons 1,202 pounds.

STATEMENT OF JAMES J. H. GREGORY.

I enter one lot of premium Flat Dutch cabbage, grown in Marblehead, on a piece of pasture land, drained by tile last

season, and broken up June 20, this year. The piece was manured liberally, with a compost of muck and night soil, barn manure and fish waste, at the rate of ten cords to the acre. Seed planted about June 20, with about a tablespoonful of phosphate to each hill, well mixed with the soil. The crop received two cultivatings, and three hoeings and were pulled the second week in November. The yield of the piece in merchantable heads was 2200. These heads were very large and handsome. The area of land was 95 rods. Average weight of heads about 9 pounds.

STATEMENT OF PAUL ILSLEY.

The crop of onions which I enter for consideration was grown upon a soil of gravelly loam, the land sloping slightly towards the southeast. The crop the year previous was onions. I ploughed in the fall, turning under about seven cords of barn yard manure, to the acre. Manure composed largely of salt marsh muck. I sowed, about the 25th of April, in drills, thirteen or fourteen inches apart, about 3 1-2 pounds of seed to the acre. In cultivating, used the wheel hoe, going over the ground seven or eight times, and wed thoroughly four times. The crop this year was pulled the middle of September, and topped on the ground, and housed two or three weeks later. The result was 610 1-2 bushels of ripe onions on an acre.

Value of manure, estimated,	$75,00
Cost of preparing ground,	12,50
Cost of seed and sowing,	29,00
Cost of cultivating,	45,00
Cost of harvesting and topping,	36,00
	$197,50

STATEMENT OF J. J. H. GREGORY.

The piece planted to carrots was tile drained a year ago last

spring and then planted to carrots. This spring it was liberally manured with a compost of muck, night soil, sea manure and barn manure, at about the rate of eight cords to the acre; it was ploughed about eight inches deep, and very thoroughly worked. About the middle of June it was planted to the Improved Long Orange carrot, the short top variety, in rows fifteen inches apart, seed being dropped at the rate of one pound to the acre. The season being unpropitious, the plants averaged thinner than was desirable. After the carrots were three or four inches high, they were thinned where too thick, to three inches apart, with the exception of a small portion of the bed, which was overlooked. All after cultivation, was by finger weeding and the slide hoe. The yield was five hundred and twenty-three bushels from ninety-five rods of land, or at the rate of twenty-two tons to the acre.

STATEMENT OF J. L. NEWHALL.

Statement of a crop of Mangle Wurtzels raised by J. L. Newhall, of Newburyport, 1869.

The crop of 1867 was grass without manure, the crop of 1868 was grass without manure, on half the piece, the remainder was in cabbages with manure, at the rate of four cords per acre, and a hand full of ashes to each hill. The land was ploughed in the fall of 1868, and again in the spring of 1869. At the last ploughing, about eight cords of manure was ploughed in; the land was then harrowed and turned into ridges three feet apart, with the plow, and the seed sowed on the top of ridges, four pounds of seed required for this piece. Cost of seed, $4,80; planting, $2; cost of ploughing, $5; other preparation, $5; value of manure on the land, $64.

The piece was cultivated with a horse cultivator three times, and the weeds pulled from the rows. Cost of cultivating and weeding, $20. The crop was gathered about the middle of October, the roots were stripped of leaves and thrown into

rows of four rows each, in the forenoon, and in the afternoon carted to the cellar. Cost of harvesting crop, $15. Product of 147 rods ; 29 tons, 140 pounds.

STATEMENT OF H. F. LONGFELLOW.

The land on which the turnips were raised that I entered for premium, was broken up in 1867 and planted with potatoes ; in 1868 a crop ofcorn was raised upon it. Each year it received about 30 loads of manure to the acre. The piece which I enter is part of my field of three acres, and was manured with 33 loads of barn yard manure, spread broadcast and ploughed in to the depth of four inches, and then thrown into ridges, 30 inches apart, with a double mould-board plow. A heavy brush harrow was then passed length-ways over the ridges, leaving them so smooth that the seed was easily sown with a common brush seed sower, on the 24th of June. The plants were thinned to the distance of about 9 inches. The seed used, was Skirring's King of the Sweedes and Carter's Improved, at the rate of 1 1-3 pounds to the acre. Both varieties are *good*. After hoeing once, the weeds were pulled by hand. The three rods selected as an average, by a member of your committee, Mr. Perkins, were harvested on the 2nd of November, and the turnips, after being relieved of tops, dirt and roots, weighed 1060 7-8 pounds — 56,580 pounds, or 943 bushels to the acre, which I think is the largest crop ever offered for the Society's premium, and if it had not been for the drouth of July and August, I think I should have raised 1200 bushels to the acre.

COST OF CROP.

Manure, hauling, and spreading,	$60,00
Ploughing, ridging, and harrowing,	3,50
Seed, hoeing, weeding, thinning, and harvesting,	23,33
Interest on land,	6.00
	$92,83
Cr. by tops and small turnips,	$12,83
	$80,00

Making the cost per bushel, at previous estimate, 8 1-2 cents. The price of Ruta Baga varies from $1 to $2.25 per barrel.

STATEMENT OF J. L. NEWHALL,

Of a crop of Ruta Bagas raised by him in the year 1869. The crop of 1867 was grass without manure; the crop of 1868 the same as 1867. Ploughed in the fall of 1868 about eight inches deep, again in the spring of 1869 six inches deep, and just before sowing, about six cords of manure was ploughed in to the depth of six inches, the ground harrowed and about 200 pounds of superphospate applied broadcast, the surface was then thrown into ridges, and 1 1-2 pounds of seed, cost $1.05, sown on the top of these ridges. Value of manure on land, $54; cost of ploughing and planting, $12; the crop was cultivated three times and weeded twice; cost of weeding and cultivating, $15; the crop was harvested the last of October, the roots were pulled and topped and thrown into piles in the morning, and carted to the cellar in the afternoon. Cost of harvesting, $10. Product of 136 rods; 17 tons.

ESSAY ON HORNED CATTLE.

BY JOSEPH KITTRIDGE, OF NORTH ANDOVER.

A person who has attended our Fairs for forty years, and carried in his mind individual animals of excellence, that have been exhibited during that time, asks himself not how much improvement has been made in the horned stock of the County, but whether the stock at this time is equal to that exhibited twenty-five, thirty or more years ago.

If we take our premium list in its order, "Fat Cattle" come first. Looking back twenty-five years, we call to mind the oxen exhibited by John Marland, of Andover, and Mr. Merriam, of Tewksbury, and we must confess they have not been excelled or equalled the past few years, not even by the superior steers of Mr. Todd, of Rowley. When we take the different breeds of Bulls and compare the Ayrshires, of Mr. Hurd of Ipswich and William Marland of Andover; the Durhams of Gorham Parsons, of Byfield; Col. Newell of West Newbury; Enoch Silsbee of Bradford, and Josiah Crosby of North Andover, and the Jerseys of Mr. French of Andover, and Mr. Fay, not to mention some of the extraordinary grade bulls, we are obliged to confess that in no *single*

breed are the animals exhibited for the few past years, equal to the best specimens of those twenty years ago. Passing to the Milch Cows, the old Oake's cow stands yet at the head of the list, and I think he would be a bold man, who would say that the average of cows is better than thirty years ago. Passing on to Working Oxen, and calling to mind the splendid teams of Messrs. Perley Tapley of Danvers; Rogers of Salem; Porter of Bradford; George French of Andover, and many others, and comparing them with the premium oxen of the few years past, we find a greater falling off than in the other classes. Passing again to Heifers and Steers, we find the falling off in these classes, as marked as in the others.

If I am right in my opinion, that in scarcely any branch of stock has the County held its own, and that in some classes there has been a decided falling off, the question arises, "why is it so?" There is scarcely a village in which pure bred animals of every breed have not been introduced, and brought within the means of every one, but the fact is patent that the stock has not improved. It has occurred to me we are working in a wrong direction. We have abolished offering premiums for the best bulls, and award them for the best of the different breeds.

In the northern part of our County we have had Ayrshire, Jersey and North Devon Bulls for thirty years, and if there has been a single superior animal, either cow or ox, that has ever resulted from the cross with either of them, I have not been able to find it. With the Durham, it has been different. In Bradford, Enoch Silsbee introduced Durhams forty years ago, and descendants of them remain to this day, kept on an adjoin-

ing farm without extra care ; and I have heard of more extra cows that have been sold from that stock within the last few years than from any other. In fact, I have scarcely heard of the sale of a cow in that part of the County, for $125 or $150, without learning that she was raised by Mr. Silsbee, or from stock bought of him. Mr. Crosby, of North Andover, twenty years ago introduced a Durham bull into that place from which were raised oxen, weighing from 3,000 to 5,400 pounds a pair, excellent for work and grown without extra care, and cows giving from 16 to 18 quarts each. I would also add the testimony of Col. Moses Newell, of West Newbury, who told me that the best oxen and cows he had ever known in his neighborhood, descended from a pure Durham bull, sent him by Henry Coleman. Within the past few years, Mr. Russell of Lawrence has introduced the Dutch stock. His famous bull and some of his young stock were exhibited at Haverhill; and at Newburyport last year, and attracted great attention. It has not been sufficiently introduced, as yet, to judge of its adaptation to to our county, but I have heard of a few half blood heifers that have been extra milkers. I have also noticed, the past two years, a few Black Kerry cattle, but I cannot believe that such inferior looking animals can ever engage attention enough to be worthy of notice, and can only hope they will be of more benefit than their looks would indicate. But whether any of the imported breeds are to prove beneficial, I much doubt. Certainly, the best looking bull exhibited at our fair the present year. was labelled a Native, and was not induced to come by a premium.

I know the above will be read with surprise by many, and pronounced "old fogyish," by others ; but it does

seem as if the improvement ought to be slightly manifest by this time. I know well the argument and theory, that the Ayrshires have been bred with care for years in Scotland, on a soil similar to our own, and have been brought to great perfection as milkers, and that it is a waste of time to undertake to bring up our stock to their standard. But have they always proved as expected ? In fact, have they averaged better than good natives ? A few years since, a herd of Ayrshires was imported by the Massachusetts Agricultural Society, and were kept on our county farm one season. Mr. Brown, who had charge of them, was of the opinion they were not superior to as many heifers selected at random from an eastern drove. These same heifers were afterwards removed to the Bussey farm, near Boston. I have never seen a published account of the disposition made of them by the Society, but *rumor* says they were disposed of in a manner which redounds more to the credit of the Society, than to the Ayrshire breed of cattle, and these were selected by one of the best judges in the State, regardless of expense.

Of Jerseys, a few years since, a herd of eight pure bloods was owned in the northern part of the county, by J. P. Putnam. Their owner employed as foreman, a man who had been used to native cows, who informed me there was not a fair milker among them, and what surprised me more, that the quality of their milk was but little, if any, better than natives. At any rate, they purchased a native of the " Wilmington Farmer," that was so much superior, that the Jersey flock was very soon disposed of.

Of the North Devon it is perhaps unnecessary to speak, as I do not remember of their being exhibited in our County for several years past, and yet Mr. Coleman,

in his European Agriculture says, the two finest cows he saw in Europe, were North Devons, and Mr. Buckminister, with all the influences of the Massachusetts Ploughman, sounding their praise, publishing the statement year after year, that from four quarts of their milk, a pound of butter was made, and at his death, the stock sold for less than the average price of natives in the same condition.

I do not like to be obliged to write, as I have, in disparagement of the popular breeds in our State, nor do I believe that all Ayrshires and Jerseys are as poor milkers, as some of those to which I have referred. But I have written what I have to show that the mere fact of an animal being a pure bred one, is not, of itself, proof that he is superior to a native.

Of the real merits of pure blooded stock, it is extremely difficult to obtain correct information. With the exception of bulls, they hardly ever come up to compete for premiums, but often for exhibition, only. They are bred chiefly for sale, and of course we only hear what is favorable. It would be much more pleasant to fall in with the popular argument, which is nearly stereotyped at all our discussions in Legislative Halls or Colleges, which is, that the Durhams are a large breed of cattle,— too large for our pastures, — good for beef, but are poor milkers, while the Ayrshires are more hardy, better adapted to poor feed and give large quantities of milk, while the gentleman who wishes pet animals and rich milk, must have the Jerseys which are delicate and need extra care.

My experience is confined chiefly to a part of our own county; in other parts of the State, the improvement by pure bred animals, may have been more marked, but

I must say what I have before hinted, that the Durham is the only blood which has been infused into the stock of our County with manifest improvement.

How are we to improve our stock?

1st. By improving our pastures, instead of feeding them year after year and returning them nothing. Let us keep down the bushes, and manure them in some way and then it will not be necessary to keep inferior animals to accommodate our pastures.

2d. In awarding a premium for bulls, award it for the best animal, whether native or thorough-bred and let his offspring decide his merit. In other words, let every competitor for a premium on bulls be obliged to exhibit, with the animal, his stock; some calves of the present season, also yearlings, two-years-old and older still, if possible. In this way only, can you judge whether crossing with thorough-breds is an advantage, or otherwise.

3d. Be careful in selecting your committee. Select men of good judgment, and who have no particular interest to puff any breed.

Lastly. Pay higher premiums. I do not mean pay more money than you now do, but put the amount in fewer premiums. For instance, instead of paying $10 for the best Durham and $10 for the best Jersey, &c., pay $30 for the best bull, without regard to breed, $5 only for the second, and let there be no third, and if the same bull is the best one the next year, give him the first premium again. In this way I think you will make people enthusiastic to get the best and keep it so, and I shall be surprised if in less than two years, there is not *apparent* improvement in the stock of our County.

AGRICULTURE IN MASSACHUSETTS.

BY WARREN A. DURANT, OF LAWRENCE.

When we consider the number of societies that have been formed in this Commonwealth by the tillers of the soil for mutual encouragement and improvement, the variety and large circulation of periodicals devoted to their interests, the machines and implements which the inventive genius of the day is producing to lighten their labors, the superiority of modern farm buildings, the new fruits and vegetables which are yearly offered to the public, and improvement in all kinds of stock, it is natural to infer that our agriculture is progressing rapidly, for are not all these things sure indications of a deeper interest, more careful study, and a higher success?

It is true there has been a great advance in the ways and means in farm management, that never before did farmers manifest so strong a desire for thorough, accurate knowledge, and never were so many educated men devoting their time and talents to its elevation; but amid these cheering signs of progress are others of a different character, which give another view to the subject. Ride about any county, traverse the length and breadth of the State, and the traveller may go a long

distance without seeing a single work of permanent improvement in progress. Occasionally he will find a man subduing meadow land, or breaking up a rough pasture, but not in a strong-handed, energetic way, as if he were positive of the utility and profitableness of his labor. Here and there he will see new buildings. The fact that the old ones are tumbling down is as often the cause of their erection as the pressing necessity of enlarged accommodations. If he examines every farm carefully, he will be surprised at the number where the pastures are growing up to bushes, briars and brambles, where mowing fields need to be renovated, where the crops suffer for want of thorough under draining, where a majority of the fruit trees are upon the decline from old age or neglect, where walls and fences require re-building, and the buildings are behind the times and rapidly going to decay from lack of timely repairs. A large portion of the farms are owned by people who have passed the meridian of life; their children are grown up and gone; under increasing years and increasing infirmities, what was once to them a pleasure has become a burden. Short of reliable and efficient help, they adopt that course of management which involves the least care and labor. These men can tell you of the larger crops this farm has produced, or the greater number of stock which that one kept, and freely admit the backward tendency of their own homesteads. The simple fact that none of the children can be induced to assist in carrying on the farm, causes scores in every county to be thrown upon the market for sale. Everywhere can be seen field after field that does not pay interest, taxes, and cost of maintaining fences. Scarcely a beginning has been made in thorough drainage, and yet the wet lands, which consti-

tute no small portion of the area of the State, can be rendered the most profitable of any according to the labor. Thousands of acres of hillside, and rough, rocky lands, which have been stripped of their natural product, the trees, and are now kept for a sort of pasturage, would return a higher percentage if they were at once converted into vigorous young forests. It will be seen, taking the State as a whole, that the number of farms which show a steady increase in productions is not large, and all that can strictly be called progressive in her agriculture lies in improvement in *quality;* that notwithstanding the numerous appliances for saving labor, the *quanitty* of products has not been increased during the last twenty-five years.

If any one wishes further evidence on this conclusion, he can turn to the statistical record, and there he will find that the State had in 1845, 52,541 more cattle than the returns show for 1865; there were 185,509 more of sheep—the falling off being principally in the Merino blood; there has been a decrease of 41,519 in swine. The horses, however, are more numerous, there being a gain of 25,101. This gain may be attributed to farmers substituting horses for oxen, and to the larger numbers required in cities. The corn crop in 1845 was nearly as large as that of 1865, the difference being only 1,470 bushels; the increase in barley is 16,664. The hay crop shows an increase of 19,189 tons, while during the same period wheat fell off 7,206; in rye the decrease is 176,512 bushels; in oats, 572,162; in potatoes, 940,575 bushels. In 1845 there was made 3,410,045 pounds of cheese more than in 1865. The butter sold from our farms at the latter date was 3,892,766 pounds, which is nearly four million pounds less than the product in

1845. Some decrease might be expected in the dairy, since selling milk is taking precedence of butter and cheese making, but neither the increasing demand for milk, nor the high price of butter and cheese have prevented the number of cows from diminishing, for the returns at the last decade show a loss for the State of 9,624, and of this the share of the leading dairy county, Worcester, was 3,890.

It may be suggested that this diminution in stock and staple products may partly be accounted for by the increasing attention given to Horticulture, the raising of raw material for our manufactures, and by the absorption of some of our best land into house lots and suburban residences. In answer to this—it may be stated that the market gardens are mostly confined to the three counties encircling Boston, and flax, broom corn and tobacco are the only articles raised that are not strictly edible, and that the whole area devoted to these three articles, and also to market gardens, is only 9,891 acres, which would not account for the deficiency in the oat crop alone, allowing a yield of forty bushels to the acre.

The question may here well be asked, why, while our commerce and manufactures have achieved unparalleled success, our agriculture has not likewise prospered? Is it owing to a lack of enterprise? The past twenty-five years have in some respects been trying times to our farmers. It has been a period of changes, and to keep up with the advance of the day has required a succession of radical changes — in the kinds of crops — in modes of cropping and cultivation—in the introduction of labor-saving implements—in the system of marketing and means of transportation; and while striving to keep up with these they have been contending in sharp

competition with the first fruits of the richer soil of our younger States. Moreover, a spirit of discontent has prevailed; said some, the lot of our Pilgrim Fathers did not fall in a goodly place; the promised land of this Western world lies beyond in the great valley; why delve we here amid these many hills, rocky fields and sterile plains? let us go and possess it! Others said, money can be made easier and quicker in the factory, the work-shop, or counting-room, and we will go hither! Our business men have spoken contemptuously of tilling such a soil as this; Eastern capitalists largely interested in Western railroads and in the sale of lands, have urged on emigration from our rural districts; every man thus withdrawn from the farm is a material loss to our agriculture. When the ranks of our farmers have been continually thinned by the removal of the young and robust, what could our old men do? Where was the encouragement for them to remodel their buildings, buy labor-saving machines, smooth down their rough fields, underdrain and adopt all the new improvements of the day? Where would our manufactures be were it not for the young men crowding into every department ready and willing to rise early and bear the heavier burdens, and who have the courage and spirit to try the new projects? If under such circumstances our farms have held their own, they have done well; if they show a decrease it is not surprising.

It is well known that the production of food in our State is not equal to the consumption, and from the foregoing it will be seen we are less and less able to meet the demands of the yearly increasing population. Our markets are so regularly supplied at all seasons of the year that it is difficult to tell how much comes from

within and how much from without the State. A simple enumeration of the sum total, either in pounds, bushels, acres, or their value in dollars, does not always give a full idea of the quantity our farmers have to sell, or the real productiveness of the soil. A few equalizations and comparisons, however, may help in attaining an approximate idea. The wheat crop for 1865 gives but a trifle over one quart to each inhabitant, and if to the wheat, the rye, barley and buckwheat be added, it would give 11.4 quarts to each person; still add to this the whole corn crop, and there would be 1.9 bushels of grain whereof each inhabitant could make his bread. The potato crop divided equally gives three bushels to each, but of the whole crop so small a portion comes to market that our cities must obtain a part of their supply from other States. There is only one cow to every nine people to supply dairy products; the cheese made gives a fraction over three pounds to each. Boston with its present population would find in all the butter sold from the farm about 16 pounds to each person. It has been argued by some that fruit culture would be overdone, and that even now apples do not pay; yet within the last few years we have imported largely of all varieties, and if the amount of what has been brought into the State, both fresh and preserved, foreign and domestic, could be ascertained, without doubt it would exceed all which has been sold from it even in our most fruitful years.

An average of the hay crop gives each farm 13.2 tons; the oat crop 14.2 bushels; corn 42.3; potatoes about 81 bushels; the wheat less than one. The English hay divided among the horses, cattle, and one fifth of the sheep is 1.3 tons to each animal; add to the English

the meadow, both salt and fresh, and they would make 1.7 tons. The oats and corn fed to the horses alone in daily rations of six quarts would last 156 days. If the horses were divided among the farmers they would have 1.9 each; an equal division of the sheep gives 3.4; of swine, 1.3; cows and heifers, 3.7; of all the cattle, 4.7. Or to proportion the stock to the population, there was in 1865 5.6 people to each head of cattle; 7.4 people to each sheep, and 20 to each swine.

In 1860 the United States had 1.5 people to each sheep; 1.1 to each head of cattle, and less than one to each swine. There are obvious reasons why Massachusetts does not keep up with some of the younger States in stock raising, but is there any reason why she should fall so far below the average. Our State is not so well stocked as many foreign countries where a great deal is said about land monopoly, excess of population, slow progress, etc. In Great Britain there were 3.5 people to each head of cattle; France, 2.6; Holland, 2.7; Sweden, 2; Russia, 2.9. France had 1-1 population to each head of sheep; Prussia, 1; Spain, less than a unit. Spain had 3.6 people to each head of swine; Great Britain, 7,6; France, 7.1; Austria, 4.4.

Although the excess of the consumption of food over the production is large, no one acquainted with successful farming will doubt that the present, and even a larger population could be furnished with food from our soil, when its real productiveness has not yet been developed; thousands of acres of our best land lie waste, or yielding at most a stunted growth of wood, or a little coarse hay and sour grass. Our farmers returned nearly an acre of unimproved land for every acre of improved. Now if one-twentieth of the unimproved land were

planted in corn, it would give, at thirty bushels per acre, a gain nearly equal to the present crop; if another twentieth were sowed to rye, at twenty bushels per acre, the crop would be about four times the present one; a twentieth in barley, at twenty-five bushels per acre, would give more than eight times the present crop; one-twentieth in wheat, at fifteen bushels per acre, would be 773,130 bushels, or about sixteen times the amount now raised; one-tenth in oats, yielding twenty-five bushels per acre, a crop four times the present; two-fifths in hay, at one and one-fourth tons per acre, and the hay crop would be doubled; if the remaining five-twentieths were brought into good pasturage, and two acres made to support a cow, more than 125,000 of this valuable and profitable part of our stock could be added to our present number. Large as the products would then appear, who will say the maximum point would be attained, for the average yield of the acres now termed improved could be easily raised twenty-five per cent., and still be below what it produces under the management of our best cultivators. That greater progress in our agriculture can and ought to be made, none will question; but are the tillers of the soil, under present circumstances, able to bring it up to the desired standard? If all the means within their reach are persistently and faithfully used, the prospects are encouraging. The transition state through which they are passing will soon be over, and things settle down to a more permanent basis. The work they have to do and the best manner of doing it will be better understood, and it is to be hoped that ere long the migration from the farm will be checked. It was an important step towards progress when an institution was provided for educating our young farmers

for the work they are to assume. Hitherto the existing means for acquiring that education were inadequate to the exigencies of the case, and all plans proposed to meet the deficiency failed to receive the hearty approval of those who were to be benefited thereby. Teaching the agricultural sciences in the public schools would only give a smattering of the rudiments, and judging from the past, little direct, practical aid could be expected from the classical colleges. The canker worm and caterpillar may devastate the very trees that shade their grounds, the curculio and mildew destroy their fruit, rust, blight or rot their potatoes and other vegetables, yet they pause not, swerve not from their routine to discover, if possible, practical and effectual remedies against these and kindred pests that continually harass the farmer. Digging out Greek roots, discussing knotty points in metaphysics or ancient history, or discoursing upon heathen mythology, are more congenial occupations. The effect of the training of our classical schools seems to be adverse to fitting a young man for following the quiet, laborious life of the farmer. Were it not so, why do so few graduates immediately choose this as their future and only avocation? Were an attempt to be made to teach agriculture in our scientific schools, the other industrial pursuits having a stronger hold upon the sympathies of our citizens, it would be crowded into the back ground and would not receive the attention its importance demands.

Therefore all honor to the men who decided to establish a distinct, separate and independent college for farmers, and who located it in a purely farming district; there it can stand upon its own merits, and work out in its own way the agricultural problems of the day. It

was a bold movement—few States have had the courage to do likewise. But the exigencies of our farmers required it, and their sons can fill it to overflowing, and it can be made an institution of incalculable benefit to the whole State.

In the great work before them farmers need the aid of the Legislature, and the hearty co-operation of the public. To this some manufacturers may object, and say, we create new and better markets—if agriculture does not thrive under the stimulation of these, let it decline. Other men may claim that any special grants, privileges, or aid from the public will be construed as favoritism and may form a dangerous precedent, for agriculture is only one of our many employments—merely a specialty. But have not our manufactures and commerce been constantly under the patronage of government, and are they either more than a specialty? Our manufacturers saw from the beginning that protection was necessary for their very existence; they sought it, claimed it, and obtained it; and even now, their great prosperity is due in large measure to the fostering care of government. A few merchants finding that Boston would be benefitted by a larger traffic with the West, at different times determined to open new thoroughfares across the State, and they asked for aid; it has been freely granted. Most faithfully and zealously has the State watched and guarded the mercantile and manufacturing interests. So far has legislation sometimes been carried to advance these interests, that the rights of farmers have been ignored. It would not be an act of generosity if the helping hand of the State were now extended and an effort made to raise agriculture to the position it should occupy; it would be simply justice, or the recognition of

rights, for farmers have rights—by the virtue of the property they own, taxes they pay, and votes they cast. When we consider how cheerfully they have submitted to—nay, often cordially supported measures for the advancement of our varied industry, it is surprising they have not asked more for themselves; and when they see how these have advanced with rapid strides, while they have been stationary or retrograde, what shall be said? Were the 46,904 owners of farms and their 68,636 employees united upon any plan, their requests would certainly be heeded.

But the desired end may be secured without one class of citizens arraying themselves against another, the interests of all classes are in the main identical; every man, woman and child in the commonwealth, has an interest in any project which will improve the quality and increase the quantity of food. Our manufacturers, from their peculiar location, will think more of this subject in future, for they soon will meet with sharp competition from the rising establishments at the West and South, and they will find it quite enough to transport coal and raw material to this corner of the Union, and carry their goods or wares to distant markets, without sending a thousand miles or more for provision for their workmen. They must have some material advantages in order to continue to make their profits; one of these should be cheap labor; cheap labor depends upon cheap food, and where shall they obtain the cheap food? Shall it be from our own fields, or from the West? If from the West, Western manufacturers will have it still cheaper. It has been a pet theory with many of our leading men, that it is cheaper to bring provisions from the West, than to raise them from our own soil, and an enormous expense

has been incurred in opening various lines of communication with more fertile lands; still, the price of staple products has steadily advanced and the markets in and around Boston, are the dearest in the Union, for purchasing food, if we except the mining districts; this will continue to be the case so long as the acres within our own limits and within full view of our workshops, are neglected and we depend upon localities far away. Bushels are bushels, barrels are barrels and tons are tons, and it will require as much force to move them thirty years hence as now, and the older, richer and more influential railroad companies grow, the less disposed are they to carry for low rates. The true working of this plan will ere long be apparent, and it will be seen that if some of the states' money that has been furnished for the construction of railroads to carry it into execution, had been expended in the promotion of our agriculture, it would prove a better investment. After all that may be said, our manufacturers, in reality, are sensibly affected by the prosperity of the farmer; they desire our markets to be cheaply supplied with provisions in abundance. If our farmers will now develop their resources, show the capacity of the soil, and their ability to furnish the markets, every plan for the promotion of agriculture will be promptly seconded and supported. Were there no higher motive, a State pride should prompt every citizen to speak a good word for the advancement of this important branch of industry, for will it not be gratifying as we travel from town to town, county to county, through the length and breadth of the State to see the rough fields made smooth, the waste places productive, all the steep, bleak hillsides again clothed with trees, valleys full of waving grain and well-kept flocks and herds, and

every acre producing its full quota, to see around the home of every farmer unmistakable evidence of contentment, happiness and prosperity.

ESSAYS AND REPORTS.

There were but three Essays submitted to your Committee for examination, neither of which seemed to merit the first premium of the Society. The essay on Horned Cattle, in the opinion of your Committee seemed to open up a subject in which every farmer has a personal interest, and on which there is a great diversity of opinion, and although your Committee were not clear whether the writer intended to give his own experience from a practical knowledge of the whole question, or whether it embodied his own theory from observation, still this essay may awaken a new interest in this important question. They therefore award the second premium to Joseph Kittridge, of North Andover.

The Essay on the Agriculture of Massachusetts, shows extensive research, and that its author had a desire to present this question to the consideration of his readers, in a manner sometimes the most effective, through the medium of the pocket. The result of his examination is summed up in a series of statistics in a concise form which will be useful for future reference. If the author had presented his views in a more direct manner, reducing it very much in length, we think it would have presented all that is really valuable, and it would be more likely to receive the careful attention of those for whose benefit it was prepared. We award the third premium to W. A. Durant, of Lawrence.

VEGETABLES.

The Committee would invite the personal attention of the members of the Society, to the Report on Vegetables. The subject is one in which the community has a personal interest, and one that we trust will tell in the future, by an endeavor to consider the *quality* of our farm products worthy the careful attention of every farmer, rather than the desire to be chronicled as the producer of some *mammoth monstrosity* unfit to be eaten by man or beast. We award the first premium of diploma and $10 to J. J. H. Gregory, of Marblehead.

MANURES.

The report on Manures is one in which every farmer has a personal interest. There is but little doubt that we suffer from the want of a sufficient quantity of fertilizers for the breadth of land under cultivation. He that will enable the farmer to make a wise choice out of the many preperations that are offered to his notice may be considered a public benefactor. We think the experiments of the author of this report, and his ability to speak from his own experience worthy of the careful thought of every agriculturalist. We award the second premium of eight dollars to James R. Nichols, of Haverhill.

ROOT CROPS.

This report seemed to your Committee of much importance, and one in which every member of the Society has an interest. "Like labor, will produce like results." The author has given his personal attention to the department assigned him, and we think that the result of his labor will stimulate others to try and improve upon the results furnished in this report. We recommend the third premium of $6 to Andrew Nichols, of Danvers.

Your Committee, in submitting their views on the matters assigned them, do so with a sense of their inability to speak

with that confidence which will give weight to their opinions. We are obliged to depend upon theory, rather than practice, which dependence we would not recommend to farmers. We trust that the next Committee will be better versed in the subjects assigned them.

For the Committee — James Kimball, Chairman.

Dr. *E. H. Payson, Treasurer, in account with the Essex Agricultural Society,* *Cr.*

1868.				1868.			
October,	To balance of former account,		$1155 45	October.	By premiums and Gratuities awarded by the Trustees,		$1035 00
	To receipts of Exhibition at Newburyport, per D. Granger's account,	$1701 89		Decem.	By do additional,		78 00
	less expenses of same,	1583 74	118 15		By expense account as follows:		
	To Bank Dividends for October, 1868,		410 50		Exhibition,	$147 41	
	To Donation from Gen. Sutton on account of two scholarships, for last year,		200 00		Secretary for services, stationery, &c.,	161 11	
	To Donation from Gen. Sutton on account of "Boy's Plowing," last year,		58 00		Printing,	405 39	
	To Donation from Gen. Sutton, premium for "Reports,"		25 00		Rent,	25 00	
	To Donation from Gen. Sutton on account of two scholarships, current year,		100 00		Advertising,	225 00	
Decem.	To State Bounty,		600 00		Diplomas,	50 75	— 791 91
15	To Fees from New Members,		159 00		By scholarships of Morse and Ware,		100 00
1869.					By Investment in U. S. 10-40 bond	$1065 00	
January.	To Dividend 1st National Bank, Salem,		70 00		accrued interest	10 00	1075 00
	To nett of Coupons Essex R. R.,		19 95		By Balance to new account,		829 54
	To Gold Coupons, in currency,		20 25				
April,	To Treadwell Farm Rent,		250 00				
	To Bank Dividends,		410 50				
July.	To Dividend 1st National Bank of Salem,		70 00				
	To nett of Coupons, Essex R. R.,		19 95				
	To Gold Coupons, in currency,		20 70				
	To premiums unclaimed,		202 00				
			3909 45				$3909 45

Funds Belonging to the Society.

16 shares in Warren National Bank, cost	$1595 40	Amount brought up,	$12680 10
8 shares in Exchange National Bank, par,	800 00	Funds on hand in 1868,	11941 01
14 shares in First National Bank, Salem, cost	1402 66		
5 shares in First National Bank, Danvers, par	375 00	Gain in 1869,	$739 09
12 shares in Mercantile National Bank, cost	1226 50		
23 shares in Merchants National Bank, Salem, cost	1189 50	The whole charge against the Treadwell Farm to date is	$434 28
2 shares in Salem National Bank, par	200 00		
15 shares in South Danvers National Bank, cost	1471 25	The whole charge against the Colman Library to date is	$719 22
42 shares in Asiatic National Bank, Salem, cost	1281 25		
Essex Railroad Bonds, par	700 00		
1500 United States Bonds, cost	1609 00		
Amount of cash as above,	829 54	E. E. EDWARD H. PAYSON, Treasurer.	
Amount carried up,	$12680 10	Salem, October, 1869.	

Salem, December 19, 1869. The subscriber has examined the above account, and finds the same correct in all its parts and well vouched, the balance on hand being $829 54. The above statement of the funds of the Society is correct.

CHARLES KIMBALL, Auditor.

OFFICERS OF THE SOCIETY,

FOR 1869-70.

PRESIDENT.

WILLIAM SUTTON, of Peabody.

VICE PRESIDENTS.

GEORGE B. LORING, of Salem.
E. G. KELLEY, of Newburyport.
JOHN KEELEY, of Haverhill.
BENJAMIN P. WARE, of Marblehead.

TREASURER.

EDWARD H. PAYSON, of Salem.

SECRETARY.

CHARLES P. PRESTON, of Danvers.

HONORARY TRUSTEES.

JOHN W. PROCTOR, of Peabody.
ALLEN W. DODGE, of Hamilton.
JOSEPH HOW, of Methuen.

TRUSTEES.

George A. Abbott, Andover;
David Choate, Essex;
Thomas J. Clark, Salisbury;
John Day, Boxford;
Aaron Dodge, Beverly;
Levi Emery, Lawrence;
James Flint, Middleton;
William Foster, N. Andover;
Alonzo B. Fellows, Ipswich;
Thos. P. Gentlee, Manchester;
J. J. H. Gregory, Marblehead;
Joseph S. Howe, Methuen;
John S. Ives, Salem;
James P. King, Peabody;
Edward H. Little, Newbury;
Thomas K. Leach, Topsfield;
Samuel A. Merrill, Danvers;
William B. Morgan, Wenham;
J. L. Newhall, Newburyport;
Sherman Nelson, Georgetown;
James R. Nichols, Haverhill;
Warren Ordway, Bradford;
John Perkins, Lynnfield;
Isaac Patch, Gloucester;
Charles Rogers, W. Newbury;
George H. Sweetser, Saugus;
D. H. Stickney, Groveland;
John L. Shorey, Lynn;
Aaron Sawyer, Amesbury;
Daniel G. Todd, Rowley.

NEW MEMBERS—1869.

Charles Adams, Newbury;
Henry Alley, Wenham;
Francis H. Appleton, Peabody;
Geo. E. Adams, Georgetown;
D. E. Batchelder, Newburyport;
John Brown, Ipswich;
John J. Babson, Gloucester;
J. A. Bartlett, Danvers;
Osgood Brown, W. Newbury;
Dudley Bradstreet, Topsfield;
Gus. Babson, Jr., Gloucester;
S. N. Baker, Jr., Ipswich;
James W. Bond, Ipswich;
Warren Currier, Newburyport;
J. S. Cressey, Rowley;
John Clark, Gloucester;
C. H. Ireland, Newburyport;
Milon B. Jenkins, N. Andover;
William Jones, Gloucester;
Israel K. Jewett, Ipswich;
Wm. H. Kinsman, Ipswich;
Andrew Lackey, Marblehead;
Andrew Lane, Gloucester;
David W. Lowe, Gloucester;
George Lowe, Gloucester;
Sidney Low, Essex;
Chas. M. Lunt, Newbury;
John Manning, N. Andover;
A. C. Morse, Haverhill;
Ernest S. Merrill, Danvers;
Luther S. Morgan, Hamilton;
Joseph S. Needham, Peabody;

Thos. Capers, Newburyport;
Luther Caldwell, Ipswich;
Eben Dale, Jr., Gloucester;
N. N. Dummer, Rowley;
George Denning, Gloucester;
Geo. E. F. Dane, Hamilton;
Ephraim A. Edwards, Beverly;
J. D. W. French, N. Andover;
William Fitts, Manchester;
Curtis French, Newburyport;
Thomas Flint, Peabody;
Horace P. Flint, Peabody;
George H. Green, Ipswich;
W. W. Gannett, Boston;
Samuel B. Hill, N. Andover;
A. F. Hobbs, Wenham;
William Hadley, Gloucester;
Gardner E. Herrick, Glouc'st'r;
Thos. O. W. Houghton, Saugus;
T. G. Hurd, Ipswich;
Samuel Hunt, Ipswich;
Henry C. Harnden, Andover;
N. T. Harris, Lynn;
Joseph Horton, Ipswich;
Asa T. Newhall, Newb'yport;
Chas. J. Peabody, Topsfield;
Orrin Putnam, Danvers;
J. Pillsbury, Georgetown;
M. A. Plummer, Newburyport;
Asa T. Potter, Ipswich;
John S. Rogers, Gloucester;
Edwin Robinson, Haverhill;
G. A. Randall, Newbury:
Thomas Saunders, Salem;
Beman C. Smith, Rockport;
David Smith, Rockport;
Allen Smith, Rockport;
Aaron Sawyer, Amesbury;
Webster Smith, Ipswich;
M. G. Tenney, Georgetown;
William Thurlow, Newbury;
G. D. Tenney, Georgetown;
O. B. Tenney, Georgetown;
James Wilson, Topsfield;
W. S. Wheeler, Georgetown;
Isaac Wilson, Georgetown;
J. Longfellow, Newbury;
H. F. Longfellow, Newbury.

☞ Any citizen in the County may become a member by paying the sum of three dollars to increase the permanent funds of the Society, and he will receive a certificate of his membership from the Secretary. No fines or assessments are ever imposed. Members are entitled to the free use of the Library, and a copy of the Transactions each year All ordained Ministers of the Gospel residing in the County, and editors of newspapers, published therein, are entitled to the privileges of the Library.

List of Premiums, &c.

FAT CATTLE.

J. L. Newhall, Newb't,	1st premium and diploma,	$10
Joseph Longfellow, Newbury,	2d "	8
Joshua L. Newhall, Newb't,	3d "	5

BULLS.

J. L. Newhall, Newb't, Ayrshires,	1st premium, diploma and	$10
J. D. W. French, No. Andover, do,	2d "	5
J. Longfellow, Newbury, Jerseys,	1st " diploma and	10
Eliphalet Griffin, Newb't, "	2d "	5
Wm. B. Carleton, Haverhill, for bull, gratuity,		5
John K. Dodge, Newb't, "	"	5

MILCH COWS.

Moses A. Plummer, Newb't,	1st premium, diploma and	$15
J. D. W. French, No. Andover,	2d "	10
Edward Donahoe, Newb't,	3d "	5

HEIFERS.

Francis Dane, Hamilton, for two-year-old,	1st premium,		$8
Jos. Longfellow, Newbury, "	2d	"	5
Hiram Young, Newbury, "	3d	"	3
Francis Dane, Hamilton, yearlings,	1st	"	5
J. L. Newhall, Newb't, "	2d	"	3
S. M. Caldwell, Newbury, calves, premium,			6

WORKING OXEN.

Edward H. Little, Newbury,	1st premium, diploma and	$12
Sam'l Moody, jr., West Newbury,	2d "	10
Silas Little, Newbury,	3d "	8

WORKING STEERS.

Gideon Lucy, Newbury,	1st premium, diploma and	$8
Jos. Horton, Ipswich	2d "	5

STEERS.

R. Jaques, W. Newbury, for 3 yr. old,	1st premium,	$6
Daniel Moulton, W. Newbury, "	2d "	5
Jas. D. White, Haverhill, 2 yr. old,	1st "	5
Paul T. Winkley, Newb't, "	2d "	4
Joseph Kittredge, No. Andover, yearlings,	1st "	4
Paul T. Winkley, Newb't, do,	2d "	3
Nath'l Stevens, No. Andover, do, gratuity,		3

STALLIONS.

Bartlett & Weeman, Danvers, for 4 yrs. old,		1st premium, diploma and		$15
D. F. Morrill & Son, Amesbury,	"	2d	"	10
Chas. O. Putnam, Danvers, 3	"	1st	"	5
N. Little, Newbury,	"	2d	"	5

BROOD MARES.

Daniel G. Todd, Rowley,	1st premium, diploma and	$15
Charles Kimball, Bradford	2d "	10
B. F. Jenkins, No. Andover,	3d "	8

FAMILY HORSES.

William Hervey, Newb't,	1st premium diploma and	$15
Rob't Bailey, Newb't,	2d "	10
David Smith, Newb't,	3d "	8

FARM AND DRAFT HORSES.

Edw'd H. Little, Newbury,	1st premium,	diploma and	$10
Jas. T. Carlton, Bradford,	2d	"	8
J. D. W. French, No. Andover,	3d	"	5

COLTS.

Orrin Putnam, Danvers, for 4 yrs old,	1st premium	diploma and	$10
Washington Burnham, Essex, "	2d	"	5
Daniel O. Weed, Amesbury, 3 yrs old,	1st	"	6
David Foss, Newb't, "	2d	"	4
Elbridge Battelle, Newb't 2 "	1st	"	5
Francis Dane, Hamilton,	2d	"	3
J. O. Winkley, Newb't, yearling,	1st	"	4
A. T. Newhall, Newb't, "	2d	"	3

SWINE.

H. P. Holt, Andover, for boar,	1st premium,	diploma and	$8
Jos. Longfellow, Newbury, do,	2nd	"	5
Geo. B. Austin, Boxford, breeding sow,	1st	diploma and	8
Wm. Foster, No. Andover, "	2d	"	5
Jos. Longfellow, Newbury, weaned pigs,	1st	"	5
Wm. Foster, No. Andover "	2d	"	3

SHEEP.

Francis Dane, Hamilton, Cotswold ewes,	1st premium,	diploma and	$8
Romulus Jaques, W. Newbury, grade,	2d	"	5
Francis Dane, Hamilton, lambs,	1st	"	3
D. F. Appleton, Ipswich, Cotswold buck	1st	" diploma and	6

PLOUGHING — DOUBLE TEAMS.

D. L. Goodrich, W. Newbury,	1st premium,	diploma and	$12
Jaques & Bray, Newbury,	2d	"	10
Jos. Horton, Ipswich,	3d	"	9
Edw'd H. Little, Newbury,	4th	"	8

SINGLE TEAMS.

Wm. Jaques, Newbury,	1st premium, diploma and	$7
Thos. G. Ordway, W. Newbury,	2d "	6

PLOUGHING — WITH HORSES.

Joshua L. Newhall, Newb't,	1st premium, diploma and	$10
Edw'd H. Little, Newbury,	2d "	7
Wm. R. Putnam, Danvers,	3d "	4

SIDE HILL PLOUGHS.

Sam'l Moody, Jr., W. Newbury,	1st premium, diploma and	$10
Wm. Foster, North Andover,	2d "	8

BOYS' PLOUGHING.

George W. Bray, Newbury,	1st premium,	$25
Sam'l O. Ordway, W. Newbury,	2d "	15
Leonard N. Rogers, Newbury,	3d "	10

AGRICULTURAL IMPLEMENTS.

Parker & Gannett, Boston, best collection, diploma and	$15
Whittemore Belcher & Co., Boston, Grant Hay Cutter, gratuity,	3
Whittemore Belcher & Co., Boston, Smith's Churn, do,	3
Amos Poor, W. Newbury, Peerless Churn, do,	3
E. E. Lummus, Boston, American Haytedder, do,	5
C. R. Sargent, Newb't, Monitor Seed Sower, do,	6
Webster Smith, Ipswich, Farm Wagon, do,	5

CARRIAGES.

Foster & Howe, Amesbury, Carriage Wheels, diploma.	
J. B. Patten, W. Newbury, Covered Wagon, gratuity,	$10

DAIRY — BUTTER.

A. F. Hobbs, Wenham,	1st premium, diploma and	$12
Mrs. J. Longfellow, Newbury,	2d "	10
Mrs. A. Dane, Hamilton,	3d "	8
Mrs. Ridgway, W. Newbury,	4th "	5

CHEESE.

D. L. Goodridge, W. Newbury, 1st premium, $8
N. Moulton, Newbury, factory, 2d " 5

FARMS.

E. G. Kelley, Newb't, 1st premium, diploma and $30

IMPROVING PASTURE LANDS.

Gilbert Conant, Ipswich, 1st premium, diploma and $15

ROOT CROPS.

J. J. H. Gregory, Marblehead, Carrots, 1st premium, diploma, and 8
H. F. Longfellow, Newbury, Ruta Bagas, " " diploma and 8
J. L. Newhall, Newb't, " " 2d " 4
" " " Mangolds, 1st " diploma and 8
Paul M. Illsley, Newbury, onions, 1st " diploma and 8
H. L. & W. W. Phelps, No. Andover, potatoes, 1st " diploma and 8
Chas. L. Perkins, Newbury potatoes 2d " 5
J. J. H. Gregory, Marblehead, cabbages, 1st " diploma and 8
J. L. Newhall, Newb't, squashes, 1st " diploma and 8

ESSAYS.

Joseph Kittredge, No. Andover, 2d premium, $10
W. A. Durant, Lawrence 3d " 8

REPORTS OF COMMITTEES.

J. J. H. Gregory, Marblehead, 1st premium, diploma and $10
Jas. R. Nichols, Haverhill, 2d " 8
Andrew Nichols, Danvers, 3d " 6

Awarded by Committee on				Poultry,	$20.00
"	"	"	"	Vegetables,	60.50
"	"	"	"	Fruit,	126.00
"	"	"	"	Flowers,	38.50
"	"	"	"	Counterpanes, Rugs etc.,	25.00
"	"	"	"	Fancy Articles,	47.50
"	"	"	"	General Merchandise,	22.00
"	"	"	"	Bread and Honey,	20.00
"	"	"	"	Articles manufactured from Leather,	14.00
					$1,183.50

RECAPITULATION.

FARMS.

Amount awarded to		Farms,	$30.00	
"	"	Improving Pasture Lands,	15.00	
"	"	Ploughing,	141.00	
"	"	Farm Implements and Carriages,	40.00	
				$226.00

FARM STOCK.

Amount awarded to		Fat Cattle,	23 00	
"	"	Bulls,	40.00	
"	"	Milch Cows,	30.00	
"	"	Heifers,	24.00	
"	"	Calves,	6 00	
"	"	Working Oxen,	43.00	
"	"	Steers,	30.00	
"	"	Stallions,	38.00	
"	"	Breeding Mares,	33.00	
"	"	Family Horses,	33.00	
"	"	Farm and Draft Horses,	23.00	
"	"	Colts,	40.00	
"	"	Sheep,	22.00	
"	"	Swine,	34.00	
"	"	Poultry,	20.00	
				$439.00

FARM PRODUCE

Amount awarded to		Vegetables,	$60.00	
"	"	Fruits,	126.00	
"	"	Flowers,	38.50	
"	"	Dairy,	48.00	
"	"	Bread &c.,	19.50	
"	"	All other objects,	226.50	
				$518.50
		Total,		$1,183.50

CONSTITUTION

—— OF THE ——

ESSEX AGRICULTURAL SOCIETY.

ARTICLE I. There shall be a President, four Vice Presidents, a Secretary and a Treasurer, who shall be Trustees, *ex-officio*: in addition to these, thirty (originally twelve) other Trustees, shall be chosen from the members at large, all of whom shall continue in office until others are elected in their stead.

ART. II. There shall be an Annual Meeting of the Society, at such time as the Trustees shall determine; at which all officers shall be elected. Twenty members at least shall be necessary to constitute a quorum for the transaction of business.

ART. III. If at any meeting of the Society, or the Trustees, the President and Vice Presidents shall be absent, the members present may appoint one from among them to preside at such meeting.

ART. IV. The President, or, in case of his absence, either of the Vice Presidents, with the advice of the Trustees, may call a special meeting of the Society; or whenever a written application, with the reasons assigned therefor, shall be made by any twelve

members of the Society, to the President and Trustees, they shall call such meeting.

Art. v. The meetings of the Trustees shall be held at such time and place as they shall from time to time agree upon; seven of whom with the presiding officer shall make a quorum.

Art. vi. The Trustees shall regulate all the concerns of the Society, during the intervals of its meetings; propose such objects of improvement to the attention of the public, publish such communications, and offer premiums in such form and value as they think proper, (provided the premiums offered do not exceed the funds of the Society:) and shall lay before the Society at each of its meetings, a statement of their proceedings and of the communications made to them.

Art. vii. The Secretary shall take minutes of all the votes and proceedings of the Society and of the Trustees, and enter them in separate books; and shall record all such communications as the Trustees shall direct. He shall write and answer all letters relating to the business of the Society.

Art. viii. The Treasurer shall receive all moneys due or payable to the Society, and all donations that may be made to it; for which he shall give duplicate receipts, one of which shall be lodged with the Secretary, who shall make a fair record thereof. The Treasurer shall from time to time pay out such moneys as he shall have orders for from the Trustees; and shall annually, and whenever thereto required, render a fair account of all his receipts and payments to the Society or a committee thereof. He shall give bonds for the faithful discharge of his duty, in such sum as the Trustees shall direct, and with such sureties.

Art. ix. A committee shall be appointed annually by the Trustees to audit the Treasurer's accounts, who shall report to the Society; and the same being accepted shall be entered by the Secretary in his books.

Art. x. In case of the death, resignation, incapacity, or removal out of the county of the Secretary or of the Treasurer, the Trustees shall take charge of the official books, papers, and other effects,

belonging to the office that may be vacated, and give receipts for the same; which books, papers, etc., they may deliver to some person whom they may appoint to fill the office until the next meeting of the Society, at which time there shall be a new choice.

Art. xi. Any citizen of the county may become a member of the Society, by paying the sum of three dollars to increase the permanent fund of the institution,

Art. xii. A Committee shall be raised from time to time to solicit and receive subscriptions for raising a fund for encouraging the noblest of pursuits, the Agriculture of our country. The same to be sacredly appropriated to that purpose.

Art. xiii. All ordained ministers of the Gospel who reside within the county, shall be admitted honorary members of the Society.

Art. xiv. In addition to the usual number of Trustees annually elected, the past Presidents of the Society shall be honorary members of the Board of Trustees.

AMENDMENTS TO THE CONSTITUTION.

ADOPTED SEPT. 29th, 1863.

Article i. The officers of the Society shall consist of a President, four Vice Presidents, a Treasurer, Secretary, and thirty Trustees.

Art. ii. A Committee of one from each city and town in the county, represented in the Society, shall be appointed at each annual meeting, by nomination from the floor, to report a list of officers, (with the exception of Treasurer,) at the next succeeding annual meeting, which report shall be acted on, and the officers elected at said meeting by the ballots of the members present.

Art. III. The Treasurer shall be elected annually by the Trustees, at their meeting in November.

Art. IV. The Committee on nomination shall hold its meeting prior to the first day of July each year; and its report shall be immediately placed in the hands of the Secretary, for the examination of any member of the Society; and the Secretary shall cause ballots to be prepared in conformity with said report, for the use of the members, and presented at the annual meeting.

Art. V. The first election under these amendments to be had at the annual meeting in 1864, and they shall only apply to the Trustees so fast as they go out of office under the present tenure of election.

AMENDMENT ADOPTED SEPT. 24th, 1867.

Trustees of the Society shall not be eligible to act upon the nominating committee; and members of the nominating committee shall not be eligible as candidates for Trustees.

AMENDMENT ADOPTED SEPT. 29th, 1868.

Each member of the Committee for the nomination of officers shall be empowered to appoint a substitute in case he declines serving.

LIBRARY.

The LIBRARY is established at the Plummer Hall, Essex Street, Salem, where Members can obtain Books under the following

REGULATIONS :

1. Each member shall be entitled to take from the Library TWO VOLUMES, on signing a receipt for the same, and agreeing to be accountable therefor.

2. No member shall keep any book more than two weeks, after being notified (by the Librarian) that the same is wanted by another member.

3. All books belonging to the Library shall be returned on or before the 15th of November, in each year ; that the same may be examined and the condition of the Library reported to the Trustees.

4. Any member who shall neglect or refuse to conform to these Regulations, shall thereby forfeit the privilege of taking books from the Library.

LIST OF MEMBERS

—OF THE—

Essex Agricultural Society,

FROM ITS ORGANIZATION IN 1818.

AMESBURY.

*Allen, Jonathan
*Bagley, Valentine
Bailey, Thomas
Binney, William C.
*Challis, Hezekiah
*Challis, Thomas
*Collins, Winthrop
*Davis, William
Eaton, Thomas
Evans, John
*French, Jonathan
Goodwin, A. E.
Gunnison, William
Haskell, William H.
*Hoyt, Thomas
*Johnson, William 2d
Jones, Philip
*Long, Nathan
*Lowell, David
*Nichols, William
*Patten, Jacob B.
*Patten, Robert
*Patten, Thomas
*Patten, Willis
Quimby, Thomas W.
*Rowell, Jacob
*Sargent, Ichabod
*Sargent, Josiah
Sargent, J. B.
Sargent, Orlando
Sargent, Patten
*Sargent, Stephen, Jr.
Sargent, Willis
*Sawyer, Aaron
Sawyer, Aaron
Sawyer, Thomas C.
*Sweet, William
Tukesbury, D. M.

†Moore, Appleton
*Morrill, Nathaniel
Morse, John S.
Nichols, Charles H.
*Nichols, Hezekiah
*Nichols, Stephen
Nichols, Stephen, Jr.
*Webster, Enoch
*Weed, Amos
*Weed, Daniel
*Weed, Thomas
*Winkley, J. F.
*Worthen, Ezra

ANDOVER.

*Abbott, Amos
*Abbott, Asa
Abbott, Asa A.
*Abbott, Ezra
*Abbott, George
Abbott, George A.
*Abbott, Hermon
*Abbott, James
†Abbott, Jonathan
*Abbott, Job
Abbott, Moody B.
*Abbott, Nehemiah
*Abbott, Stephen
Abbott, Stephen D.
Abbott, Sylvester
*Adams, Isaac
Ballard, Joshua
*Barnard, Gilbert
Blunt, Charles C.
*Blunt, Isaac, Jr.
†Blunt, Milton J.
*Blunt, Samuel P.
Bardwell, Simeon
†Bodwell, Henry A.
†Bond, William
*Burt, Seth
Callahan, Robert
Carruth, Isaac
*Frye, Samuel
*Frye, Timothy
*Gould, A. J.
Gray, David
Harnden, Henry C.
Hazen, Nathan W.
*Herrick, Elijah L.
Hidden, David I. C.
*Holt, David
Holt, Dean
*Holt, Henry
†Holt, Herman
*Holt, Isaac, Jr.
*Holt, Jonas
*Holt, Joseph
*Holt, Joseph, Jr.
*Holt, Solomon
Holt, E. F.
*Ingalls, Ezra
*Jenkins, Benjamin, Jr.
Jenkins, John B.
Jenkins, Kendall,
Kimball, Walter H.
*Kneeland, John
*Locke, James
*Low, Joseph L.
*Manning, John H.
*Marland, Abraham

Chickering, William
†Chamberlain, Nathaniel, Jr.
*Chandler, Ralph H.
†Chandler, Joseph
*Chase, John
†Chipman, Degrass
Cheever, James
Clark, Hobart
Cummings, C. O.
*Cummings, Daniel
*Dole, David
†Farnham, John C.
*Farrar, Samuel
*Flagg, Timothy
†Flagg, Wilson
*Flint, John
Flint, John
*Foster, John S.
Foster, Thomas C.
Foster, George
Foster, Moses, Jr.
*Foster, Timothy
†French, Charles
†French, George H.
*French, Peter
*Frye, Enoch
*Marland, William S.
*Marland, John
Mason, George F.
*Merrill, Jonathan
*Merrill, Samuel
Merrill, William
Morton, Marcus, Jr.
†Needham, Samuel
*Newman, Mark
*Osgood, Jacob
*Parker, John
*Pearson, Abiel
*Pearson, Eliphalet
†Pierce, William
†Pettingill, Merrill
Phelps, Hermon
Pillsbury, Paul P.
*Punchard, Benjamin H.
Rogers, Benjamin
Rogers, Fitzwilliam
*Sanborn, Eastman
Smith, Peter
*Townsend, Nathan
Upton, Edward C.
*West, Edward
Whittier, Nathaniel

BEVERLY.

*Abbot, Abiel
Appleton, Isaac
Baker, John I.
Baker, Stephens
*Bancroft, Thomas P.
*Batchelder, John
*Brown, George
*Brown, Moses
*Leach, William
Lord, Abraham
Lord, Cyrus W.
*Loring, Charles G.
Lovett, Francis
*Lovett, Josiah 2d
Marshall, Timothy
Mason, Lyman

Chase, Samuel
Cole, Zachariah
Cressy, Joseph
*Cole, Alfred
*Davis, Charles
Dodge, Aaron
*Dodge, Zzra
*Dodge, Levi
Dodge, William E.
Edwards Ephraim A.
Edwards, Israel O.
*Fisher, Joshua
*Foster, Benjamin
Friend, Seth
*Friend, William
Foster, Henry
Giles, Benj. V.
†Green, John A.
Haven, Franklin
Herrick, Joseph H.
*Hildreth, Daniel
*Kittredge, Ingalls
*Killam, Charles A.
Larcom, David
Lummus E. E.
Mason, Alphonzo
Meacom, John
Paine, Charles C.
*Pindar, John
Porter, John
*Porter, Nathaniel
†Porter, Robert
*Rantoul, Robert
†Raymond, John W.
Rodgers, William
†Safford, Nathaniel T.
*Sheldon, Amos
*Sheldon, Levi D.
Stevens, Augustus
Sheldon, Jesse
Standley, Samuel D. G.
*Stevens, Thomas
†Stone, Edwin M.
*Trow, James
Walker, Lawson
Waters, Richard P.
Waters, William C.
*Webber, John P.
*Woodbury, Isaac Jr.

BOXFORD.

*Adams, Israel
Andrew, Isaac W.
*Andrew, Jonathan
*Barnes, Phineas
Barnes, B. S.
*Bryant, E. D. L.
Cleveland, Wm. N.
Cole, John K.
*Cole, William R.
*Cummings, Sylvester
*Low, Solomon
*Peabody, Charles
*Pearl, Simeon
*Perley, Aaron
*Perley, Abraham
*Perley, Amos
*Perley, Artemas W.
*Perley, Charles
Perley, Charles
*Perley, Jesse

Curtis, Francis
Chadwick, Geo. W.
*Day, John
Day, John
Day, Joshua T.
†Gould, Jacob
Hale, Isaac
Hale, John
Harriman, Daniel F.
Herrick, Israel
Killam, Oliver P.
*Kimball, Amos Jr.
Kimball, Samuel
*Perley, Thomas
*Perley, Nathaniel
*Symonds, Joseph
*Spofford, Stephen
*Spofford, Parker
*Spofford, Frederick
*Spofford, Mighill
Sawyer, Thomas
*Tyler, William
*Weston, Fitch
Wood, Enoch
Wood, John T.

BRADFORD.

*Abbott, Warren
*Carlton, George, Jr.
Carlton, Nathaniel
Carlton, James T.
Chadwick, Henry M.
*Chadwick, Joseph
Cogswell, George
Cogswell, William
*Day, Gage
Day, Albert J.
Day, Royal
Day, Lafayette
Day, Hiram
Elliott, William
Ellis, John A.
Emerson, Chas. B.
Gage, Edmund
*Greenleaf, Benjamin
*Griffin, John
*Hasselton, John
*Heath, Samuel
Hopkinson, Samuel W.
Kimball, David
Kimball, Silvester
*Kimball, Daniel
*Kimball, Edmund
*Kimball, James
*Kimball, Jesse
*Kimball, Jonathan
Kimball, Leverett
Kimball, Seth
Kimball, William B.
Kimball, William Eustace
*Kimball, William N.
*Libby, Ira
Little, Mrs. M. P.
Locke, Oliver
Merrill, John F.
Morse, C. E.
†Nichols, Albert
Ordway, Alfred
Ordway, Enoch F.
†Ordway, Geo. W.
Ordway, Warren

Haseltine, Thomas
Haseltine, William
*Jenkins, Samuel
Johnson, Laburton
*Johnson, Leonard
Johnson, A. P.
Johnson, Charles G.
Kimball, Albert
*Kimball, Alfred
Kimball, A. Laburton
Kimball, Henry G.
Peabody, Frank
Peabody, Daniel
*Pemberton, William
Perley, John
†Porter, William F.
Sawyer, Samuel C.
*Tenney, William
Tewksbury, John B.
†Titcomb, Charles W.
*Woodman. Richard

DANVERS.

*Adams, Israel
†Adams, Marshall C.
*Batchelder, Ezra
Berry, Allen A.
*Berry, Ebenezer
Berry, Eben G.
*Black, Moses
*Black, Moses, Jr.
Black, William
Boardman, I. P.
*Bradstreet, Dudley
Brown, Amos
Brown, Charles W.
Butler, J. C.
*Cheever, Thomas
†Cleaveland, H. W. S.
*Collins, Benjamin
*Creelman, George
*Cummins, Samuel
‡Devereaux, George F.
Demsey, L. P.
Dodge, Elnathan
Dodge, Francis
Dodge, William Jr.
*Pope, Elijah
Pope, Ira P.
*Porter, Benjamin
Porter, Benjamin F.
*Porter, John
*Porter, Joseph
Preston, Charles P.
Preston, John
Preston, Samuel
Preston, John S.
Peart, William B.
Pratt, Amos
Putnum, Orrin
Putnam, Otis F.
Putnam, F. W.
*Putnam, Ahira
*Putnam, Daniel
Putnam, Eben
*Putnam, Eleazer
*Putnam, Elias
Putnam, Edwin F.
Putnam, Francis P.
Putnam, Israel H.
Putnam, J. A.

*Driver, Stephen
*Endicott, Israel
*Endicott, John
Fellows, Alfred
*Fowler, Samuel
Fowler, Samuel P.
Fowler, Augustus
French, George W.
*Goodale. Ebenezer
*Gould, Andrew
Gould, Charles H.
Grosvenor, David A.
*Gustin, John
†Holden, Seth
Hyde, Elisha G.
*Kent, Benjamin
*Kettle, John
*Kettle, Porter
*Kimball, Edward D.
Lander, William A.
Lane, Benjamin T.
Langley, J. R.
Legro, Edmund
Learoyd, A. P.
Martin, George B.
Massey, S. D.
Merrill, Samuel A.
Merrill, Levi
Merrill, Ernest S.
Moody, H. L.
Mudge, Edwin
*Nichols, Abel
Nichols, Andrew
*Noyes, Francis
*Oakes, Caleb
*Osgood, George
*Page, John
Page, Nathan, Jr.
Perley, A. P.
*Putnam, James A.
*Putnam, Jeremiah
*Putnam, Jesse
Putnam, Joel
*Putnam, John
*Putnam, Mary
*Putnam, Moses
*Putnam, Nathaniel
*Putnam, Samuel
Putnam, Rufus
*Putnam, Thomas
Putnam, William R.
*Reed, Briggs R.
*Richardson, Stephen
Richards, Daniel
Sears, John A.
Silvester, Joshua
*Sleeper, James
*Sprague, Joseph
Spaulding, Samuel W.
*Swan, Charles B.
Swan, Sylvanus B.
Swinerton, John
*Symonds, Thomas
*Tapley, Asa
*Tapley, Asa, Jr.
Tapley, Gilbert
Tapley, Gilbert A.
Tapley, Nathan
*Tapley, Perley
*Trask, William
*Tyler, John
Waite, Peter
Wallis, Samuel
Walcott, William H.
Warren, Aaron W.
Warren, Jonas
*Webster, Caleb
Weston, Wm. L.

Perley, Frederick
Perry, James M.
*Pope, Amos A.
*Whipple, Stephen
Wilkins, Joel
White. Amos A.

ESSEX.

Andrews, Elihu
Andrews, Joseph
Andrews, Miles S.
*Andrews, William
*Burnham, Jacob, Jr,
*Boyd, Adam
Choate, David
*Choate, George
*Choate, John
*Choate, John P.
*Choate, Joseph
*Choate, Thomas
*Cogswell, Aaron
Cogswell, Chas. B.
Dodge, Grover
Haskell, George
Knowlton, Aaron
Lee, Edward K.
Low, Aaron K.
Low, Sidney
*Low, Daniel
*Low, John
Low, Josiah
*Low, Winthrop
Mears, Wm. H.
Story, Ephraim
*Story, Jacob

GEORGETOWN.

Adams, George E.
*Adams, Abraham
*Adams, Benjamin
*Adams, Samuel
Bateman, A. P.
Boynton, George W.
Boynton, Charles
*Bradstreet, Asa
*Brocklebank, John
†Brocklebank, Samuel
*Chaplin, Eliphalet
*Couch, H. M.
*Dole, Amos G.
Dole, Richmond
*Horner, Andrew
Jewett, Jacob F.
Nelson, Charles
Nelson, Solomon
Nelson, Sherman
*Perley, John
Pettingell, Henry
*Pillsbury, J.
*Platt, Colman
Preston, John
Sanborn, George W.
*Savary, Benjamin
*Spofford, Harrison B.
*Spofford, Mighill
Spofford, Sumner P.
*Spofford, Moody
*Spofford, Peabody
*Spofford, William, Jr

Jewett. Robert
Lambert, Nathaniel
*Little, Benjamin
Little, Samuel
*McKenney, John
*Mighill, David
Moulton, Daniel E.
*Nelson, Asa
Tenney, George J.
Tenney, Richard
Tenney, Moses
Tenney, Milton G.
Tenney, Orlando B.
Tenney, Gorham D.
Wheeler, William S.
Wilson, Isaac

GLOUCESTER.

Babson, John J.
Babson, Gustavus, Jr.
*Brown, Jonathan
Butler, Benjamin F.
*Brown, Jonathan
Clark, John
Dale, Eben, Jr.
Dennin, George
Garland, Joseph
*Gilbert, Samuel
Hadley, William
*Haskell, Abraham
*Haskell, Daniel
*Haskell, Isaac
*Haskell Stephen
Herrick, Gardner E.
*Hough, Benjamin K.
Jones, William
Kittredge, John
*Low, David W.
Low, George
*Lufkin, Thomas
*Mansfield, James
*Mason, John
*Nash, Lonson
Parsons, William 2d
Patch, Isaac
*Pearce, William
*Pearce, William, Jr.
Pearce, Edward H.
*Prindall, Eliakim
*Proctor, William, Jr.
Ricker, Richard W.
*Roberts, Charles L.
Rogers, John S.
*Saville, William
*Sawyer, Charles
*Stacey, Benjamin
*Stacey, Samuel
*Stanwood, Zebulon
Stanwood, Barnard
Stevens, Zachariah
*Tappan, James
*Vancey, Josiah
*Webber, Benjamin
Wonson, George M.

GROVELAND.

Atwood, Moses P.
Atwood Daniel
Balch, Thomas H.
*Parker, Peter
Parker, Eldred S.
*Parker, William

Burbank, John
Clark, Elijah
*Balch, William
Balch, William H.
*Greenough, William
*Hardy, Phineas
*Harriman, Charles
Hardy, Ira
Harrington, Edward
*Hopkinson, Silas
Hopkinson, Walter H.
Ladd, John I.
Ordway, Leverett S.
Parker, Benjamin
*Parker, Moses
Pemberton, Luther K.
*Perry, Gardner B.
Savary, Charles G.
Savary, Chas. P.
*Savary, Thomas
Spofford, Jeremiah
Stickney, Daniel H.
Stickney Abel
†Stickney, Niles T.
Stickney, Charles
Wardwell, Z. C.
Wales, Herbert E.
Woodman, Ira S.
Walker, George S.

LAWRENCE.

Ambrose, Nathaniel
†Andrews, M. C.
*Benson, George W.
*Bigelow, Charles H.
Bodwell, Asa M.
†Bryant, Oliver
Cabot, George D.
Chapin, William C.
†Clark, Bracket H.
†Clark, Joseph F.
*Cook, Homer A.
†Colby, Charles A.
*Cross, Robert
Currier, Eben B.
*Dana, Jason H.
†Decker, J. M.
Durant, Adolphus
Emery, Levi
French, A. J.
Gile, W. F.
†Hayes, J. F. C.
Harmon, Nathan W.
Herrick, James D.
Herrick, H. G.
Hood, Gilbert E.
Hills, George W.
*How, Harrison G.
†Kimball, William M.
†Kimball, Josiah
Lamb, William D.
Merrill, George S.
Page, E. F.
Page, Edward
Rollins, John R.
Russell, W. A.
Stevens, William
Saunders, Daniel Jr.
Warren, Albert
*White, Nathaniel
Wilder, G. W.
Wheeler, H. T.
Wright, W. H. P.
Webster, Charles

LYNN.

Allen Jacob A.
*Alley, John 3d
*Baker, Daniel C.
Baker, Ezra
Black, James D.
Breed, Andrews
*Breed, Daniel
Breed, Henry A.
Breed, Nehemiah, Jr.
*Breed, Thomas A.
*Breed, William B.
*Brimblecom, Samuel
*Brown, Ebenezer
Brown, Ira P.
*Brown, Isaac
*Burrill, Micajah
*Chase, Hezekiah
Chase, Nathan D.
*Chase, Jacob
*Childs, Amariah
†Coggeshall, J. H.
†Collins, Ezra
Davis, Edward S.
Emery, George E.
*Fay, Richard S.
Fay, William P.
*Fuller, James
*Gardner, James
Graves, Samuel
Harris, N. T.
Healy, Mark
*Hood, George
Hovey, Rufus P.
*Ingalls, Jacob, Jr.
*Ingalls, John 3d
*Johnson, John L.
Keene, Geo. W.
*King, Otis
Merritt, Charles
*Mudge, John
*Newhall, Charles
*Newhall, Henry B.
Newhall, Hiram L.
*Newhall, John
*Newhall, Josiah
*Newhall, Samuel
Norris, George Jr.
Nye, James M.
*Oliver, Benjamin
Oliver, John E.
Osborn, William
†Osborn, William H.
Potter, Edward P.
*Pratt, James
*Phillips, Jonathan, Jr.
*Rice, Jesse
*Silsbee, Henry
Shorey, John L.
Spinney, William N.
*Stanley, Thomas
Sanderson, Joseph N.
*Story, Isaac
*Sweetser, Ephraim
*Tebbetts, Ezra R.
*Trevett, Robert W.
*Wardwell, Henry,
†Wyman, Isaac

LYNNFIELD.

*Aborn, Samuel
*Bancroft, Thomas
*Bryant, John
*Needham, Daniel
*Newhall, Asa T.
Newhall, Josiah

Danforth, John
Emerson, Hubbard
*Emerson, Oliver
†Emerson, D. P.
Hawkes, George L.
Herrick, George E.
*Hewes, Elijah
*Mansfield, Andrew
*Mansfield, Andrew
*Perkins, John
†Perkins, John H.
Perkins, John
† Richardson, Charles
†Smith, Joseph
*Smith, William
Smith, Henry E.
*Upton, Edward
*Viles, Bowman

MANCHESTER.

*Allen, John
*Allen, John W.
Allen, Luther
*Burgess, Abiel
Burnham, Frederick
Chase, Joseph S.
*Colby, David
Cheever, William N.
*Crafts, David
Fitts, William
*Foster, Benjamin
*Foster, Israel
*Foster, Samuel
Friend, Daniel W.
Gentlee, Thomas P.
Hildreth, John D.
*Hooper, John
Knight, Henry
Knight, John, Jr.
*Lee, John
Lee, John
*Parsons, Tyler
Price, John
Smith, A. W.
*Smith, Bailey
*Stone, Abraham
*Story, Henry
Tappan, Lewis W.
Tappan, Benjamin
*Tappan, Ebenezer
Tappan, Ebenezer
Tappan, Israel F.
*Williams, Samuel N.

MARBLEHEAD.

Alley, Franklin
*Alley, James
Appleton, Thomas
*Brown, Ephraim
*Brown, Increase H.
†Cary, James
Child, Caleb
Clou tman, Henry
†Millett, Joseph
Nutting, John
Paine, Thomas Thompson
*Prince, John
*Reed, Benjamin T.
*Reed, William
Robinson, Frederick
*Smith, George G.

*Fielding, John
Gregory, J. J. H.
*Hathaway, Jeremiah
*Hathaway, John G.
Hathaway, Joseph B.
Hathaway, Seth W.
†Hill, Moses
*Hooper, John
*Hooper, Nathaniel
*Hayes, George
*Johnson, John
*Mason, Joseph
Smith, Andrew
*Trail, John
Ware, Benjamin P.
*Ware, Erastus
Ware, Horace
Warren, David
*Wilson, George
Winslow, George W.
†Wyman, Israel
†Wyman, Luke
*Wyman, Seth

METHUEN.

*Annis, George W.
*Atkinson, Moses L.
Barker, J. B.
Barker, Stephen
*Bodwell, Hazen
† Bodwell, Joseph R.
Bradley, Leverett
Butters, George W.
*Carlton, Joseph W.
Currier, Daniel
Davis, John
Dow, Lorenzo
Emerson, Jacob, Jr.
Frederic, John W.
*Frye, Jeremiah
*Frye, William H.
Gage. George W.
Goss, Charles E.
*Grosvenor, John M.
Hicok, S. S.
How, Christopher
How, Joseph
How, Joseph S.
†Hubbard, J. G.
Ingalls, Charles
Ingalls, Joseph F.
*Jackman, E. G.
*Jones, Jewett
*Kimball, Frederick
Low, John
*Merrill, Daniel 2d
*Merrill, Jonathan
Morrison, D. T.
Morse, Jonathan
Nevins, David
*Osgood, Benjamin
Patterson, D. H.
Phippen, G. S.
Rollins, Amos C.
Russ, John
Sargent, S. G.
*Shed, Charles
Sleeper, William
*Tenney, John
Tozier, C. L.
*Tyler, Varnum
† Welch, John
*Wilson, Simeon L.

MIDDLETON.

*Averill, Benjamin
Berry, Jonathan
*Peabody, David, Jr.
*Peabody, Joseph 2d

Berry, William
Currier, George A.
Flint, James
*Flint, Jesse
*Fuller, Daniel
*Fuller, Dean
*Fuller, Ephraim
Hutchinson, J. A.
*Merriam, Andrew
*Peabody, David
*Peabody, Nathaniel
Phelps, William A.
Stiles, David
Stiles, Farnham
Stiles, Hiram A.
Wellman, John K.
*Wilkins, Elias
*Wilkins, Samuel
*Wilkins, Solomon

NEWBURY.

Adams, Charles
*Adams, Charles
Adams, Charles W.
*Adams, Daniel
*Adams, George W.
*Adams, Gibbins
Adams, John J.
Adams, John C.
*Adams, Richard
Bray, Richard S.
*Burleigh, Edward M.
Caldwell, David S.
*Carter, Thomas
*Coffin, Joshua
*Davis, Charles M.
*Dodge, Robert
*Dole, David
*Dole, Moses
Goodrich, William F.
*Hale, Daniel
*Hale, Thomas
*Jaques, Richard
Jaques, Richard T.
Kent, John N.
*Kent, Paul
Kent, Joshua N.
Langley, William
*LeBreton, Peter
*Lees, John
*Little, Silas
Little, Stephen W.
Little, William
Little, Tristram
Longfellow, J.
Lunt, Joseph
Lunt, J. Austin
Lunt, Charles M.
*Moody, Silas
*Moody, William
Moody, N. W.
*Nelson, Jeremiah
*Newman, John
*Newman, Samuel
*Northend John
*Noyes, Daniel
Noyes, Luther
Noyes, James
Ordway, Moody
*Perkins, Joseph
*Pike, Richard
Plummer, Greenleaf
Plummer, Daniel, Jr.
Poole, Mrs. B. P.
Randall, G. A.
Rolfe, Joseph N.
† Sargent, G. P.
*Sargent, William
*Tenney, Daniel S.

*Little, Amos
*Little, David
Little, Edward H.
*Little, Henry
Little, Joseph
Little, Nathaniel
*Titcomb, Enoch
*Titcomb, Josiah
*Toppan, Enoch
*Torrey, John
*Whitmore, Amos
Young, Hiram

WEST NEWBURY.

*Bailey, Daniel
*Bailey, Samuel
*Bailey, Samuel N.
Bailey, Uriah
Brown, Hayden
Brown, Osgood
Brown, Robert L.
Carr, George W.
Carr, Moses
Carr, James
Carr, Samuel
Chase, Samuel S.
*Chase, Thomas
*Emery, Daniel
*Emery, Eliphalet
*Emery, George
*Emery, Moses
*Follansbee, Amos M.
Follansbee, B. A.
*Follansbee, John
† Griffin, B. F. S.
Goodridge, David L.
Goodridge, Horace M.
Goodridge, Joseph
Gowen, Ezekiel
Gordon, Joseph Z.
*Grieve, William T.
*Heath, Richard
*Hills, Edmund
*Hills, Edward
*Hills, Thomas
Hosam, George
Jaques, Romulus
*Newell, Moses
Nichols, Daniel P.
Noyes, Anson W.
Noyes, William, jr.
Noyes, Stephen E.
*Noyes, Moses
Ordway, Cyrus K.
Ordway, Hanson
*Ordway, Perley
Ordway, Thomas G.
*Osgood, John
*Pearson, Nathaniel
*Pillsbury, Daniel
Pillsbury, Daniel
*Pillsbury, Oliver
Poor, Amos
*Poore, Benjamin
Poore, Ben: Perley
*Poore, Calvin E.
Poore, George H.
*Poor, Daniel N.
Poor, Moses H.
Ridgeway, Joseph N.
Ridgeway, Moses M.
Ridgway, Sarah L.
*Robinson, Dean
Rogers, Calvin
Rogers, Charles
Rogers, George C.
Rogers, Hiram
*Rogers, Samuel
*Sawyer, David
*Silloway, Daniel

Little, Edmund, jr.
*Little, Moses
Little, Otis
Merrill, William
Merrill, Elbridge
Moody, Samuel jr.
Moore, Alfred L.
Moulton, Daniel
Mosely, Charles C.
Nelson, Daniel P.
*Newell, Joseph
† Newell, Joseph
Smith, Amos
Smith, David
Smith, James
Smith, Moses
*Stanwood, Joseph
*Tenney, Samuel
Thurlow, George
Thurlow, Stephen C.
Thurlow, Thomas C.
*Thurlow, William
Tozer, Hiram
Wildes, Green

NEWBURYPORT.

*Adams, Isaac
Adams, J. Quincy
Adams, Rufus
Akerman, John
Akerman, Joseph
*Allen, Ephraim W.
Ashby, William
*Bailey, Ebenezer
Balch, John H.
Ballou, C. N.
*Bannister, William B.
*Bartlett, Edmund
*Bartlett, Jonathan
*Bartlett, Richard
*Bartlett, William
*Bartlett, William, Jr.
Bartlett, T. K.
Batchelder, Daniel C.
Battell, Elbridge
Boardman, Isaac H.
Brewster, William H.
Bricher, William
Brown, David F.
*Brown, Moses
*Little, Josiah
Little, Moses S.
Little, John G.
Lucy, Gideon R.
Lunt, Micajah
Lunt, Charles
† Lyford, George H.
Marston, Stephen W.
Merrill, Enoch
*Merrill, John
Merrill, Samuel, Jr.
Morse, Daniel L.
Morse, James M.
Morss, Joseph B.
*Mosely, Ebenezer
Mosely, Edward S.
Moulton, Joseph
Mosely, Edward A.
Moulton, Henry W.
Newhall, Joshua L.
*Newhall, Preston
*Newhall, Joshua L., Jr.
Newhall, Asa T.
Noyes, William, Jr.

*Caldwell, Alexander
*Carter, George
*Carter, Joshua
Carey, James
*Choate, George A.
*Clark, Thomas N.
*Coffin, Hector
Coffin, Frederick, J.
Colby, George J. L
Cole, Augustus K.
Colman, James C.
Colman, Daniel T.
*Colman, Jeremiah
Colman, Moses
Colman, William T.
*Coombs, Philip
*Cross, William
Currier, Warren
Cushing, Caleb
Cutter, Eben P.
Davis, Benjamin
Delano, Otis
†Dodge, John S.
Dyer, J. R.
*Emery, David
*Emery, Moses
†Fernald, Henry B.
French, Curtis
*Frothingham, Henry
*Gage, Jonathan
Gale, Stephen M.
George, George
Goodwin, Thomas C.
*Creenleaf, John
*Greenleaf, Joshua
*Hale, Benjamin
Hale, Joshua
Hale, Josiah L.
Hale, Isaac, Jr.
*Pardy, Aaron
Page, John T.
†Payson, Samuel T.
*Peabody, Charles
Pearson, J. P.
*Pearson, John
Perley, R. M.
*Pettingell, John
Pettingell, Moses
†Phillips, Samuel
*Pike, Joseph S.
Plummer, Moses A.
Pray, Rufus
*Prince, James
*Prince, William H.
*Rand, Edward
*Rand, Edward S.
Remick, John E.
*Roberts, Joseph
†Robinson, J. D.
Shoof, Henry
Smith, David
Smith, Edmund
*Smith, J. M.
Smith, Robert A.
†Stearns, Edwin
*Stedman, Ebenezer
*Stickney, David
*Stone, Isaac
Stone, Jacob
†Sumner, John
*Tenney, Richard
Tilton, Enoch
Titcomb, Paul
*Thompson, Samuel W.
Tappan, Samuel B.
Toppan, Amos
*Toppan, Edward
Toppan, Edward S.

*Hamblet, Horace
Hamlet, Daniel
Hart, James S.
*Howard, Stephen
†Hudson, Charles H.
Huff, William
Huse, William H.
Ireland, Charles H.
Jackman, George W.
*Jenkins, George
*Johnson, Eleazer
*Johnson, Nicholas
Johnson, William P.
Kelley, E. G.
*Kinsman, Henry W.
*Toppan, Joshua
*Toppan, Thomas P.
†Walker, Dexter M.
*Wheeler, Moses B.
*Whipple, Charles
*Wildes, Asa W.
*Williams, Enoch S.
†Williams, Robert
*Wills, Charles
Winkley, Paul T.
Winkley, J. Otis
*Wood, Abner
Wood, David
*Wood, John

NORTH ANDOVER.

*Abbott, Abiel
*Abbott, Gardner
*Adams, John
*Adams, Joseph H.
*Ayer, Samuel
Appleton, S. F.
Bailey, Charles P.
*Bailey, Otis
*Barker, Jedediah H.
*Barker, Samuel F.
*Barker, Stephen
*Batchelder, William
Berry, Jacob
*Berry, Nathaniel
Blake, J. P.
*Bridges, Moody
Butterfield, Charles A.
Carlton, Daniel
Crosby, Josiah
Dale, William J.
Hubbard, Leavitt
*Ingalls, Francis
*Ingalls, Jonathan
Jaquith, Christopher P.
*Jenkins, Samuel
Jenkins, Benjamin F.
Jenkins, Milon B.
Johnson, Theron
*Johnson, William, jr.
*Kittredge, Thomas
*Kittredge, Joseph
Kittredge, Joseph
*Loring, I. Osgood
Manning, John
Montgomery, James A.
Nason, James
*Osgood, Gayton P.
*Osgood, Henry
*Osgood, Isaac
*Osgood, Isaac Jr.

Dale, William J. jr,
Davis, George L.
Dole, Francis F.
*Farnham, Benjamin
Farnham, J. L.
Farnham, Jacob
*Farnham, Jedediah
*Farrington, Philip
*Foster, Charles
*Foster, John
Foster, John P.
†Foster, J. Prescott
Foster, William
Foster, Samuel
Foster, Orrin
French, George
French, J. D. W.
Fuller, Abijah P.
Gage, John C.
*Goodhue, John
Goodhue, Hiram P.
Green, Arthur M.
Hill, Samuel B.
*Hodges, George
*Hopkins, John F.
*Parker, Moses
Peters, Nathaniel
Peters, William
*Phillips, John
†Poor, Henry
Poor, James
*Poor, John, jr.
†Poor, Mathew
*Poor, Nathaniel
*Poor, Timothy
*Prescott, James M.
Reynolds, James H.
†Raymond, Samuel
†Slade, Jarvis
†Spaulding, Amos
Spofford, Farnham
*Stevens, James
Stevens, Moses T.
*Stevens, Nathaniel
Shattuck, Thomas C.
Sutton, Eben
Symonds, Frederick
†Wardwell, Orin
Weed, Dan
Wilson, Abiel

PEABODY.

Abbott, Alfred A.
Allen, Lewis
Ayer, Hazen
Bancroft, Sidney C.
Barrett, E. P.
Basford, P. R.
Blaney, Stephen
Bodge, Horatio
*Brown, Dennison W.
*Brown, James
Marsh, Philip
*Merrill, Samuel
Merrill, Wingate
*Moreland, Thomas
*Munroe, Andrew
*Nesmith, Adam
Needham, Joseph S.
*Ney, Ebenezer
*Nichols, Andrew
Osborn, Abraham C.

Brown, Joseph
*Brown, William
*Buxton, Daniel
Buxton, Daniel jr.,
Buxton, Joshua
Buxton, Robert G.
*Cary, Joseph W.
*Choate, Rufus
Clement, John B.
Cook, Henry
Colcord, J. L.
*Crowninshield, Richard
Curtis, Andrew
†Davis, Mark
*Daniels, Robert S.
*Dodge, Daniel
*Dole, Moses
*Elliot, Isaac
Fairfield, Joseph
*Felton, Nathan
*Felton, Nathaniel
*Felton, Nathaniel
Felton, William H.
*Flint, Elijah
*Flint, Hezekiah
Flint, Thomas
Flint, Horace
Foster, James B.
*Foster, Gideon
*Frost, Caleb L.
*Gardner, George
Goodale, Byron
Goodale, J. P.
*Gould, Henry L.
†Gunnison, Elisha
Hardy, Isaac
Hills, Benjamin M.
†Hoyt, Joseph
Hutchinson, Samuel
Osborn, David
*Osborn, Joshua
Osborn, Kendall
Osgood, Joseph
†Page, Adino
Potter, William
Poor, Henry
*Pearson, Nathan
Peirson, A. L.
*Phelps, Francis
Phillips, Alonzo P.
*Poole, Fitch
Poole, Fitch
*Poole, Ward
*Poole, Ward
Poor, Eben S.
*Poor, Enoch, Jr.
*Poor, Nathan
*Preston, Levi
*Preston, Moses
Preston, Moses
*Proctor, Aaron C.
Proctor, Abel
*Proctor, Israel P.
Proctor, John W.
*Proctor, Johnson
*Proctor, Sylvester
Proctor, Thorndike
Richardson, Wyman B.
Saltonstall, Henry
Sanger, Abner
*Saunders, Oliver
Sawyer, Asa
†Scott, Benjamin
*Shaw, Joseph
*Shed, Joseph
*Shove, Jonathan
*Shove, Squires
*Southwick, Edward

Hubbard, John L.
Huntington, Benjamin
*Jacobs, Benjamin
Jacobs, Edward W.
*Jacobs, Warren M.
King, Amos
King, Eben
*King, Ebenezer
*King, Daniel P.
King, Henry A.
King, James P.
King, Jonathan
King, Perley
*Lander, Charles B.
*Little, Joshua B.
Little, William H.
*Little, William W.
†Low, Caleb
Marsh, James
Marsh, John
*Southwick, Edward, Jr.
Southwick, Sumner
*Spaulding, Joseph
*Stanley, Miles O.
Stevens, John V.
*Sutton, William
Sutton, William
Sweet, Samuel
*Symonds, Nathaniel P.
*Symonds, Samuel
*Taylor, David
*Tufts, Joseph
Upton, Eben S.
*Upton, Elisha C.
*Upton, John
*Upton, Jonathan
Upton, Stephen
Walcot, John G.
*Wallis, Dennison
Wheeler, Benjamin
Wheeler, Benjamin S.

ROCKPORT.

Estes, Alden C.
*Gott, John
Lane, Andrew
Manning, James
*Manning, John
*Norwood, Caleb
Norwood, Gorham
Patch, William H.
*Pool, Caleb
*Pool, Ebenezer
Pool, Ebenezer
Row, Ebenezer
Rowe, Jabez
Smith, Allen
Smith, Beman C.
Smith David
*Tarr, Epps

ROWLEY.

Cressy, J. S.
Dummer, N. N.
Morrison, Daniel
*Payson, Thomas

Foss, Joshua
Hale, Daniel J.
Hale, Thomas
Mighill, Charles O.
†Payson, Thomas E.
Pike, John
Proctor, George
Todd, Daniel G.

SALEM.

*Adams, Joseph
*Andrew, Charles A.
*Andrews, Joseph
*Andrews, Joseph
Andrews, Randal
Andrews, Samuel P.
*Ashton, Jacob
*Barstow, Gideon
Barton, Gardner
Barton, William C.
*Bowditch, Nathaniel
Bowdoin, Willard L.
Brookhouse, Robert, Jr.
*Browne, J. V.
*Burnham, Ebenezer
*Carlyle, Thomas
Chamberlain, James
Chase, Stephen A.
Chase, William
Collins, William
*Colman, Henry
Cressy, Josiah P.
Cross, John D.
*Crowninshield, Benj. W.
*Cummins, David
Daland, John
*Dodge, Pickering
*Dustin, Jonathan
*Eames, Theodore
Endicott, William P.
Northend, William D.
*Northey, Abijah
Noyes, E. K.
Oliver, H. K.
Oliver, Samuel C.
*Peabody, Francis
*Peabody, Joseph
Peabody, John P.
*Peirce, Caleb
Peirson, Edward B.
Perkins, J. C.
*Phillips, Stephen
*Phillips, Stephen C.
Phillips, Willard P.
Phippen, George D.
*Pickering, Henry
*Pickering, John
Pickering, John
*Pickering, Timothy
*Pickman, Benjamin
*Pickman, William
Potter, Daniel
†Proctor, William
*Pulsifer, David, Jr.
Pulsifer, Joseph
*Putnam, Charles F.
*Reed, George F.
*Richardson, William P.
Roberts, William
†Robinson, J. A.

Endicott, William C.
Felt, John
Fiske, Joseph E.
Foote, Caleb
*Forrester, John
*Forrester, Thomas H.
Foster, Joseph C.
Foster, William H.
Foster, William J.
Goodhue, William P.
Hathaway, John
*Howes, Frederick
Huntington, Asahel
Ives, John M.
Ives, John S.
Ives, William
Jones, Samuel G.
*Kimball, Eliphalet
*Kimball, Edward D.
Kimball, James
*King, James C.
*King, John G.
Kinsman, John
Lee, John C.
*Lord, Nathaniel J.
Lord, William
Loring, George B.
*Mack, Elisha
Mack, William
Maloon, William
*Manning, Robert
Manning, Robert
*Merrill, Benjamin
Merritt, David
Messervy, William S.
Metcalf, Benjamin G.
Milton, T. Payson
*Newhall, Isaac
Newcomb, Caleb
*Robinson, Nathan
Rogers, A. D.
Rogers, Richard S.
*Russell, John
Russell, John L.
*Saltonstall, Leverett
*Saunders, Jonathan P.
Saunders, Thomas
Saunders, William
*Seccomb, Ebenezer
*Silsbee, Nathaniel
*Sibley, John S.
Smith, Caleb
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TRANSACTIONS

OF THE

Essex Agricultural Society

IN MASSACHUSETTS,

FOR THE YEAR

1870.

WITH THE

ANNUAL ADDRESS

BY

HON. BENJ. F. BUTLER.

PUBLISHED BY ORDER OF THE SOCIETY.

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1870.

ADDRESS.

Nothing is more certain than that, were the practical operations of Agriculture to be discussed at the present hour, he who speaks to you should be a silent pupil, learning from the ripe experience of those sitting around him, who, through a long life, have taught the earth to yield of her plenty to the strong hand and ready arts of husbandry. The pupil, then, is warned that he should not venture, here and now, to speak, even, in the presence of the masters of the science of field culture, which they love so well, and in which they have been so long versed.

But there are studies connected with the tillage of the earth which well become the philosophical statesman; by which he may learn how laws may be best framed for dividing the land among the citizens, so that the greatest good to the greatest number may be secured without unnecessary restraint upon the individual, which is the sole object of government.

Our fathers came from a land-loving, land-hoarding race; whether the blood which flows in our veins is drawn from the tenant-farmer of England or the lord of the soil. From the first, our ancestors knew, by bitter experience, the want of land, the grinding oppression of rent-paying—had felt the power which possession of it gives—the place which the lord of the soil held amongst princes and kings; aye, and had felt what was the fate of the landless, and how little he could withstand the oppression of the landlord. If, as may be, we reckon back our blood from some noble house of England, it came through the veins of the cadet, the younger son of that house, whom the law of primogeniture had made as landless as the tenant. He had seen all of it swept away by the elder brother, while he was left to seek his fortune and his livelihood in the wilds of a new world. Or, if our ancestry was of the down-trodden sons of Ireland, they had learned through tyranny, wrong and starvation, that without land man was nothing; that to be landless was to be helpless.

Thus we come naturally, and by inheritance, to be imbued, almost with a mania for soil-getting; and our fathers strove to possess themselves of as much land as possible; to encompass with their fences, and to assure its title in themselves by the most carefully guarded records. Whoever looks over the farms of New England, even, will see that quantity of land in the hands of the individual was all that was sought for, while in the far West, where land was practically illimitable and to be had almost without price, we hear of farmers counting their acres by thousands upon thousands. And in New York, in the earlier days, the manors of the patroons

equalled in extent and exceeded in richness of soil many a German principality. Singularly enough, the laws of primogeniture and entail, in their principles and effects, although not in force, take strong hold upon our people, so that the father, in fact, gave the bulk of his land substantially to one of his sons. Both these laws made strong battle to maintain themselves as a part of our systems of government in the conventions which formed the earlier constitutions in most of the states, and not by strong votes in numbers were they cast out. But while the law, through its enactments, divided the estates among the children equally, yet in practice, almost as a rule, the farm went to one. Whoever in New England thought, or whoever now thinks of dividing his land among his daughters? How rarely is the land divided by will among the sons! The practice which has obtained, is, as we all know, for some one of the sons to remain with the father with the expectation of being given the farm, either by paying small legacies to his sisters and larger ones to his brothers, or when the estate is inconsiderable in value, or, as a very common practice, by being the assured recipient of the farm by giving a bond for the maintenance of his parents during their lives.

Thus has it come to pass that the agricultural land of New England—and it is equally true of Massachusetts—has remained substantially undivided. The boundaries of many farms are the same that they were in the time of the Revolution, save where house lots may have been sold from them, if bordering on a village. Some have been increased in their boundaries: and is it not to-day a boast among some of the farmers who sit before me,

that the boundaries of their farms are the same as those of their fathers, their grandfathers, back even to the third and fourth generation.

In the settlement of the country there were reasons for this aggregation of land which do not now obtain. New England men depended upon the forest for their fuel and for their timber; so that large portions of land might well have been held to supply the fence, the fire, and the building material. Still, it will be seen that in most of the farms, even, that reason did not obtain, for a most eager desire was manifested for clearing the land—avarice, apparently, prompting the owner to burn the wood and skim the cream from the virgin soil. It is evident that a wish to preserve woodland for fuel, in the absence of coal and peat which now supply so largely the fuel of Massachusetts, did not deter our fathers from cutting away the forest. Indeed, the early New England farmer seemed to have two controlling ideas in the selection and management of his farm: first, to set his house on the top of a hill so as to render access to it as difficult as possible; and, second, to cut off all the wood upon his land so as to render it as dismal and bare as possible. These results obtained, he became comfortable and thoroughly respectable. Statistics show that to-day there are more acres of growing woodland in the Commonwealth, although not as valuable, than there were in the days of the Revolution.

This aggregation of large quantities of land in one hand has resulted in so poor tillage and so little productiveness—because of the inability to till so much in a proper manner—and has made farming so unprofitable, that—taking the waste and barren pastures, the unim-

proved woodland where the shrub-oak and the stunted pine have filled the place of the maple, the beech, the birch, the ash, and the oak—if all the agricultural land of Massachusetts were put at sale to-day at the price which is asked for it, the proceeds would not be sufficient to dig the stones and rebuild the stonewalls which fence them.

Again, we see that farming presents so few attractions as a business, that all our young men are flocking to the cities or engaging in commerce upon the seas, or seeking adventures abroad, or homes in the Western uncultivated lands. Anything rather than here pursue the occupation of a farmer. If they farm at all, they go to the West, to make themselves new homes there. And if you ask the reason of this, you are told, "who would spend his time upon the sterile broken lands of Massachusetts when he can have the rich prairies of Illinois and Kansas, without a stone, or a stump, or a hill, on which to make his farm!" Probably there was never a greater fallacy than that farming can be made more profitable in the West than in New England. What crop will you plant there of which you cannot raise more here than there to the acre? Is it corn? Compare Massachusetts in 1867, with Ohio and Texas, to see why our sons should go either West or South to raise corn. In 1867, corn here averaged 35 bushels to the acre; in Ohio 28 bushels to the acre; Texas 28 bushels to the acre. So that, in fact, the average worth of an acre of corn in Massachusetts was from $50 to $54; in Ohio, $20 to $23, and in Texas, $17 to $22. Is it wheat? The average yield of wheat in Massachusetts was 16 bushels to the acre; in Ohio, 15; in Texas, 9. While the wheat

of Massachusetts was worth $2.75 a bushel, or $44 to the acre, the wheat of Ohio was worth $2.40 per bushel, or $27 to $30 to the acre; and of Texas, 90 cents a bushel, or $17 to $18 to the acre. Do you wish to raise oats? Then the average yield of Massachusetts was 28 bushels to the acre; of Ohio, 30; of Texas, 28. The oats of Massachusetts average 75 cents a bushel, year in and year out, while in Texas and Ohio they are 40 cents a bushel. Is it tobacco? The yield of Massachusetts is 1100 pounds to the acre; of Ohio, 700, and Virginia, 700 pounds to the acre; and the cash value of an acre of tobacco in Massachusetts is quite treble in value that of an acre in the great tobacco State of Virginia? Is it hay? Then we averaged one ton of hay in Massachusetts to one ton and a half in Ohio and a ton and two-thirds in Texas. But for years, when harvested, the hay of Massachusetts was worth $25 a ton; the hay of Ohio from $12 to $15; and of Texas from $16 to $18. In no State in the Union are the productions of the soil, acre for acre, as tilled, taking the different kinds, so great in quantity as in Massachusetts, and no State where the product of the soil, when harvested, is so valuable. California and Minnesota exceed us in wheat, acre per acre, but fall behind us in other products. The statements I have made are so accurate that they are literally borne out by statistics to be procured at any time from the Bureau of Agriculture at Washington.

It may be answered, "All that you say is very true, but it costs so much to till an acre of ground in Massachusetts, in comparison with what you get out of it, that our brother-farmers of the West have the great advantage of us." Let us meet that argument, and compare

again the same States; and it will appear, taking the average of the whole amount cultivated and of the prices of the crops, by the actual results, that the produce of Massachusetts, of cultivated land, on an average of the whole amount, is $28 to the acre; of Ohio it is $18 to the acre; of Texas $21 to the acre; and of California, which boasts of her richness in agriculture, overtopping even her mines, gives but $21 to the acre.

Both farmer and statesman will be led to inquire what is the cause of the languishment of agriculture as a business in the United States, because we have seen that it is more remunerative in New England than anywhere else in proportion to the amount of land under cultivation. True, we hear of the immense crops and immense farms of the West; but there, it is a question of quantity and extent of farms, and not of the value of the crops. It is also true, that for a few years, when the adventurous settler takes the virgin soil, he gets crops far, far surpassing these which I have brought into comparison; but then, that is but for a few years, and he quits the land which he has cleared and reduced to cultivation, and which he declares worn out, for "fresh fields and pastures new;" and for a while, (yet a moment in the nation's life,) this may be repeated; but, the second and the third generation certainly will find a necessity to retill the land that their fathers have exhausted. There can be no more striking illustration of this than that which has occurred within the memory of men here. All can remember when the Genesee Valley in New York supplied not only its own inhabitants, but all New England with the finer brands of flour. The Genesee brand of flour was the only one called for in its day, and

we older men can remember the glowing accounts we read of the productiveness of the New York lands in wheat and their richness in breadstuffs. Next we hear of St. Louis flour; then we read of Minnesota flour. But the fact which most vividly portrays the rapid exhaustion of land in this country is, that wheat from California was brought in ships fifteen thousand miles, in 1868, around Cape Horn, carried by railroad and canal to the Genesee Valley, and in the Rochester mills ground to supply the wants of its inhabitants, sons of those fathers who supplied all New England, within a generation, with their surplus flour.

In searching for a remedy for this exhaustion of the soil, to find the means by which farming can become one of the profitable occupations, to bring back our boys to the homestead and the cultivation of the land,—the natural occupation of men, because men of all professions, men in trade, men in every pursuit of life, the shipmaster on the sea, and the lawyer in the forum, all are looking forward to that time in their old age when, having accumulated a fortune more or less extensive, they can come back to Mother Earth and finish life tilling the land at last;—we will see that the remedy cannot be found by any comparison we can make of the different sections of our own country. For we see the same causes producing the same effects, the same impoverishment of the soil, after a few years of skimming it, the same aggregations of land which cannot be tilled, the same unwillingness in the sons to follow the business of their fathers in tilling the earth, and everywhere even greater want of productiveness than in New England. Therefore it is that we must go to other sources of com-

parison to find by analogy what shall be the remedy. In this search we must turn aside from England, for there, cheap capital and tenant-farming on long leases and non-proprietorship of the land, make a state of things which gives no room for comparison with America. Tenant-farming here is almost wholly unknown, and wherever the farmer is a tenant, it has become proverbially unprofitable.

Let us direct our attention, therefore, for the purpose of this comparison, to a land where all eyes are now turned for a wholly other and different reason. Let us examine the agriculture of France, and compare its productions with our own, and compare the habits of its people, as farmers, with ours, and see, if we can, what is it that tends to show differences in their favor. Here we may find facts which will teach the statesman and farmer, both, lessons in agriculture, and quite possibly, facts which will arouse the attention, as surprising in themselves and containing not a little of rebuke to our general self-gratulation. One of our vices as Americans is self-gratulation, a little vain-gloriousness, a little boast. We speak of our teeming West. We speak flippantly of our capability of supplying all the world with breadstuffs. True, we have the capability so to do; but it is equally lamentably true that we do not do it. The boastful western man upon his prairies, or the Californian upon his ranche will, not a little astonished, learn the fact that the Empire of France, with not so much area as the State of Texas, raises more wheat, in quantity, than the United States of America all told, reckoning from Alaska to Florida and from Texas to Maine; the area of France being only 207,480 square miles, or

132 million acres, while Texas contains 237,321 square miles, or 154 million acres. And yet the product of wheat in France, in the year 1868, was 350 million bushels, the total product of wheat in the United States for the same year was only about 240 million.

So far from our supplying the markets of the world with wheat, in the year 1867, we sent to England only four million hundred weight of wheat, or about nine million of dollars in value, while France exported to England eleven million dollars worth of butter alone, to spread on the bread made from our wheat, or, to speak less lightly, France sent more value in butter to England than we did all kinds of breadstuffs.

Again, to go back to the year 1860, where only we can get accurate statistics of the products of the United States and the products of France, let me call your attention to the following remarkable but reliable statistics of French agriculture. France then produced 230 million bushels of oats against our 170 milllion; 70 million bushels of rye against our 20 million; 60 million bushels of barley against our 12 million; and 32 million bushels of buckwheat against our 12 million. Nor was she without the products of grazing and pasture land, which are supposed to be the necessity requiring our extended farms. She had 4 million horses and mules against our 4 million and a quarter; 12 million of neat cattle against our 13 million; 30 million of sheep against our 24 million, and 6 million of swine against our 16 million.

As an example of what may be the profits of the smaller industries of farming, which, by the farmers of the United States, are reckoned almost valueless, it is an

astonishing fact that in the year 1866 France exported as much in value of eggs to England alone as we exported of bacon and hams, one of our chief exports of provisions in 1868, to all the world; that is to say, in round numbers, rising of five million of dollars, while we exported eggs last year to the paltry number of 412 dozen.

No man who has not had these figures brought to his consideration and who has not examined the agricultural productions of France, both in variety and amount, can believe that the 38 million of her inhabitants on a territory so small as to give only three and a half acres to an inhabitant, could vie, in agricultural productions, of all that goes to make up the necessaries of living and national wealth, save cotton and tobacco, with a nation like ours of about the same number of inhabitants, whose territory gives more than 50 acres to each inhabitant, or nearly seventeen times as much land for cultivation, and from this estimate we exclude Alaska, of which none know the extent save the walrus and Polar bears. Of course, a very large portion of our lands, say three-fourths, are substantially uninhabited; but these are always reckoned when we make up our national resources.

Nor is the common idea a true one that the people of France are poor, or that our people are drawn away from farming into other and more profitable occupation, so that France does not more than equal us in the value and amount of her industries—all her industries as compared with ours; for in the year 1868 her imports amounted to 679 million, and her exports to 581 million, while in the same period the imports of the United States were only 381 million and the exports were 441

million, of which exportation 72 million were gold and silver and 163 million of unmanufactured cotton, neither of which, to any extent, was exported by France, leaving only 206 million as the product of our agricultural and manufacturing industry for export, after what is consumed by our people, against 581 million, which is the surplus of her agricultural and manufacturing industry exported after maintaining her own people. And although we boast of our cotton and tobacco as sources of wealth, yet she has her wines, brandies and sugars, of which latter France exported in 1868 six million dollars, and we imported sixty millions.

The common idea in this country that wealth is not diffused in France as with us, but is only in the hands of a few rich nobles, is another mistake quite as illusory as any of the misunderstandings of the agricultural and industrial condition of our ancient ally. While the national debt of France at the beginning of the present year was almost precisely the same as ours—being 2700 million; yet, instead of being as ours is, 1500 million owed to foreigners, to say nothing of State and County debts which are things unheard of in the departments of France, it is divided among and held by more than *eleven hundred thousand Frenchmen*, giving a share of about 2500 dollars to each. The actual diffusion of wealth among the middling and industrial classes is evident, because when a loan of 90 million of dollars was offered by the Emperor to the people, an actual subscription of 3152 million, or more than 35 times the sum asked for, was made by 781 thousand different persons (all French men, and generally in small sums) because the providence of their government, differing from ours, gives to

the man who desires to invest ten dollars in the national fund the preference over him who desires to invest ten million, the small subscription being first received, and first filled.

It may be interesting, although not exactly in consonance with the purpose we have in this analysis, to compare the division of the debt of France among the people, showing the diffusion of wealth in the middling classes, with the national debt of Great Britain. Her debt amounts to 3800 million which is held by 126 thousand persons only, giving an average share of 30 thousand dollars to each individual as against less than one-tenth as much to each holder of the French debt.

Nor are the French people burdened with taxation more than we are. They have nothing of the taxation known with us as State taxes, but their entire taxation is a national one, and amounted with the revenues, which are another form of taxation in the aggregate, in the year 1868, to 403 million of dollars, while our taxation and revenues for the same year, paid to the national government alone, was 405 millions. But it will be observed that this taxation, while nominally about the same as ours, yet, being with us based on a much less product of trade and industry than in France—almost 50 per cent. less in fact—is really a taxation nearly 50 per cent. greater on the industry of this country than is imposed upon the industries of the French people.

But another and more certain test of the distribution of wealth in France is seen in this: the population being divided into 9 millions of families, allowing four to the family, which is nearly the ratio, one million of those families, or four million of people, are in easy circum-

stances, that is, able to live without work or business. Of the remaining 8 million, which may be said to be composed of the industrial and working classes, 3 million only are inhabitants of the towns. That is, of the whole population, two-fifths of the people in France, live in the cities, and three-fifths live in the country. This gives a very surprising result as compared with England, where four-fifths of the whole people live in town and one-fifth only in the country. We have yet no data with which I am acquainted, to make a like comparison with this country.

All property is then very equally distributed among the bulk of the population. There are six million of houses in France, the greater part of them cottages with small plots of land. Nearly the whole of this number are small freeholds belonging to their occupants. In other words, more than two-thirds of the entire population own their own houses.

After hearing these statistics, the question, I have no doubt, arises to the lips of each one of my auditors, as it came to me,—how are these very great results possible? What is the secret? This may be told in a word. It is the thorough cultivation of the soil. Of her 132 million of acres, 64 million are arable: 12 millions only are in meadows, or, as we say, fields and grass; 5 million in vineyards; $1\frac{1}{2}$ millions in orchards and gardens; $2\frac{1}{4}$ million in miscellaneous crops; 20 million in wood and forest; a half million in ponds; 20 million only may be called heath or waste lands, the remainder being for roads, public squares, canals and pleasure grounds—about 7 millions of acres. Thus it will appear that two-thirds of the entire area of France is under actual cultivation every year.

But the question still recurs—how can this be possible? The answer is, it becomes possible because of the minute subdivision of the land, the small freeholds into which all France is divided. Before the revolution of 1792 the lands were holden largely by the nobles and by the clergy, large portions being covered with forest. These lands, of course, were cultivated by a tenantry, and as the nobleman was exempted from the most oppressive portion of the taxation, all exactions fell upon the land and upon labor. But the French revolution changed all that. All the lands of the Church and of the nobles were declared public domain, and being made the basis of the currency, were sold out in small parcels. Much of the forests were cut off, the land put into form for tillage, and, in jealousy lest the nobles should again accumulate land in large quantities through laws of entail and primogeniture, the people made it a portion of the fundamental law that all patrimonies should be equally divided among children, leaving but one-third to be disposed of by the parent if he had two children, and one-quarter only if he had three. This provision of law has withstood the several changes of government, and an attempt to modify it by Charles X was, perhaps, the primary cause of the revolution of 1830. The effect of this salutary law has been the subdivision of landed estates and other property in France until the result has been attained which we have seen. The farms average less than fifteen acres and there are over three million of farms containing ten acres or less. The farms in Massachusetts average 100 acres each. Do we wonder now at the difference in cultivation?

May we not deduce, therefore, fairly from this analy-

sis and comparison of the agricultural industry of France the proposition that the great fault of our farming is too great extent of land in each farm and too little cultivation? Is it not the duty of the Statesman to inquire whether legislation should not be fitted to subdivide the land for the benefit of the whole people?—and is it not equally the duty of the farmer to inquire whether less land and more cultivation would not produce greater crops?

I have given you the facts and figures and have studiously avoided giving any opinions of my own which would not be valuable. But I have endeavored to impress these very valuable and vital statistics upon you in order to bring the questions I have last indicated, to your consideration. It will be observed in this that I have not taken into account the advantages we are supposed to derive from the political liberty which we enjoy compared with France bearing the burdens of an empire, which we have seen, in fact, are no greater than the unholy and unnecessary war through which we have passed, have imposed upon us. Nor would it have been just if I had undertaken to make any allowance in our favor for this, because, to the statesman and statician it is evident that for the last twenty years the agricultural portion of the people of France have enjoyed the best government possible for them. After a democracy, a pure despotism is the best government. The wrongs, sins, crimes if you please, of one man are infinitessimal in their bearing upon thirty-eight million of people. The citizens of no country have enjoyed greater protection of life, liberty and property, than has the French nation for nearly twenty years past. A man there need only to conduct himself

as not to injure his neighbor and let politics alone, and for him the government was nearly perfect. I know we are accustomed to decry Napoleon, and some men do so all the more now that he is deposed and powerless. But it is not to be denied, in justice, that he has given to agricultural France the very best government she ever had, whatever may have been the action of his government upon the people of Paris, or whatever the theoretical objections to him as a usurper or personal ruler.

This is evident from two perfectly cogent series of facts: First, that since 1851 the production of grain in France has been raised from 912 million of bushels to 1006 million in 1868; the production of wine from 739 million gallons in 1851 to 1664 million in 1868; that the exports and imports of France have been raised from 522 million in 1851 to 1625 million in 1868; that the inland trade has been brought up from 248 million to 1312 million; and the value of the personal property from 1152 million to 3733 million, and the commercial marine from 5 million of tons to 12 million tons. And in Paris, too, the valuation of the houses is raised, under Napoleon, from 511 million to 1191 million.

Can a government that works such results have been oppressive to the people? Have the mass of the French people been satisfied with the government? Of this there were two very conclusive proofs. It is commonly said that the votes in the several elections in favor of the Empire have been controlled by the army. But in the rural districts where the army was not stationed, the vote in favor of the Empire has been almost unanimous, and the entire vote against it has been in the larger towns and in the city of Paris where soldiers were stationed.

But there is a still better and more conclusive answer. When people are misgoverned and dissatisfied with their government, they emigrate. Ireland has been pouring her population into this country for many years, until from a population of less than six million, we have naturalized citizens of Irish birth, 1611 thousand; from England, which boasts of being the freest and best governed country in Europe, with a population of 20 million, we have half a million of naturalized citizens; from Scotland, with a population of 3 million, 100 thousand; from Switzerland, the free Republic of Europe, with a population of 2½ million, we have 54 thousand; from Norway, with a population of a million and a half, we have 43 thousand; from the Netherlands, with a population of 3 million, 28 thousand; from Germany—free, enlightened Germany—whose King proclaimed "her march the march of civilization," we have a million and a half of naturalized citizens out of a population of 37 million, while from France, with a population of 38 million, we have but one hundred thousand, or about the same number that we have from Scotland with one-twelth of the population. Beside, it will be remembered that Great Britain has large colonies all over the world—making a large drain upon her surplus population.

With this exhibit of favored industry under an empire, the inquiry presses home at once, in what production have we in the republic of America any superiority over a despotism? Why should we prefer the one form of government rather than the other? The answer is an an obvious one. *The republic excels in the production of men.* For while the population of France, not depleted by emigration, as we have seen, increased from 1820 to

1860 only 7 million from 31 million, the population of the United States increased from 9 million in 1820 to 31 million in 1860; and although greatly swelled by emigration yet the increase from that source during that period was only 5 million, while the actual increase was 22 million. Or, to state facts in other words, the per centage of increase in France was, for the whole period of forty years, about 22 per cent., or one half of one per cent. per annum, while the increase in the United States was for the same period 244 per cent., or six per cent. per annum, being twelve times greater increase in the United States than in France; and this too affected by less than one-fourth by immigration, leaving the actual increase, without immigration, nine times greater in this country than in France. Here we see the work of a republic.

If by bringing to your attention these figures and the results—claiming no other merit than that I have undertaken in your behalf the labor of preparing and arranging them—I have succeeded in directing attention to the effects of better cultivation of the soil, caused by its proper and greater subdivision, so that you shall be satisfied that changes in this regard may be made effectual and useful to the country, and that we should look abroad to compare the situation of other nations with our own, and learn how best we can take advantage of the great blessings of civil and religious liberty we enjoy. I have done far more than I had thought to do when I began; and it now only remains to me to thank you for your patient and courteous attention.

THE EXHIBITION.

ADDRESSES, RESOLUTIONS, &c.

The Fiftieth Annual Exhibition and Cattle Show was held at Ipswich, Sept. 27th and 28th, 1870.

The Entries of Horses, Oxen and other farm stock, were 127. Animals, about 300. Entries of Poultry, 11; Varieties, 25. Entries for Ploughing, 13; of Agricultural Implements, 12; Carriages, 5; Pears, 400 plates; Apples, 360 plates; Peaches and Grapes, 143 plates; Flowers, 44 entries, Bread, 10 entries; Butter, 14 entries; Cheese, 4 entries; Honey, 2 entries; Vegetables, 54 entries; Counterpanes, 33 entries; Manufactures, 10; Fancy Articles, 128 entries; Articles Manufactured from Leather, 4. 28 Diplomas and premiums amounting to $989.50, were awarded.

At a meeting of the Society held after the Dinner on the second day of the Exhibition, Gen. William Sutton, the President presided, and remarked that the Society had funds securely invested, amounting to about fifteen thousand dollars, a farm worth seven thousand dollars, and fixtures consisting of a tent and a large number of pens for the accommodation of stock—and beside, a valuable library. He introduced Hon. Allen W. Dodge, who spoke as follows:

REMARKS OF HON. ALLEN W. DODGE.

Mr. Dodge said that he knew no reason why he should be called upon to be first to address the society, except that having served it so long as Secretary and President in years gone by, he might seem to be a connecting link between the past and the present. He esteemed it a privilege to have aided to the best of his ability in promoting the prosperity of a society comprising so many of the farmers of Old Essex. This annual festival—this old-fashioned Cattle-Show—was the only holiday they could find time to participate in. Others had their long summer vacations, when the preacher left his pulpit, the judge his bench, the lawyer his brief, the teacher, and his scholars, too, their books, and went hunting, and fishing, and rusticating, to lay in a stock of health to carry them through the year. But the farmers had to toil on year in and year out, to make both ends of it meet. And to-day his great joy in coming here is, to meet other farmers, to inspect their choice specimens of the products of the field, the stall and the dairy, to witness the plowing and the drawing match, and to compare notes, so as to raise his own standard of good husbandry, and incite others—especially the young men—to aim at the best results. It was only high farming—a liberal and judicious outlay of capital in stock, tools, fertilizers and labor—that would pay. But over and above all other motives to exertion, was the noble ambition that should fire the breast of every young farmer, to leave the paternal acres better than he found them, remembering that he who makes two blades of grass grow where but one grew before, is a benefactor of his race.

Mr. Dodge congratulated the officers and members of the Society, on the success of the Exhibition, and urged them to go on to make each succeeding exhibition better and better, so as to meet the demands of a progressive agriculture and of a community that they had helped educate in all that pertains to the garden and the farm.

REMARKS OF JOSEPH HOW.

We congratulate the society, and particularly the citizens of this place, for this successful show. In some respects it is not the most favorable place in the county to hold a fair. Notwithstanding the inconvenience, it is a success. It shows more strongly, the efforts that have been made. The question has often been asked, where is the show to be? In Ipswich was the reply. What, down there in that extreme part of the county? Now we wish those persons were here to see what we have seen. The blooded stock, the horses, the farming utensels, the dairy, the vegetables and luscious fruit, and above all, this great concourse of people. It all shows your zeal in the cause.

We from the west part of the county could not have come here and got up such a show without your assistance. You have done it, and will do it again if the Fair is held here next year.

We think we can comprehend your feelings. We well remember what our feelings were when the Fair was at Lawrence. We were desirous of doing as well or better than others had done. We had a good field to work in. We labored hard and were successful; had a good show. We next went to Haverhill. There they labored with earnestness and zeal, and were successful. Thence to Newburyport; thence to Ipswich; with renewed energy in each place.

We like this rotary motion, going from place to place around the County. We never go where we are not invited. Liberal contributions are usually made in the place where the Fair is held, to pay part of the expenses of the Society.—Large accessions of members are usually made to the Society which tend to increase the interest and add to its funds.

Some of our good people are for having a permanent location on the Society's farm in Topsfield, or in some other place. Should that be done we think it would be detrimental to the interest of the Society, as we think there would be far less in-

terest than is now manifested in going to a new place every second year.

About the time the New England Agricultural Society was formed, we had the following conversation with a gentleman who was then President of a sister Society. He remarked that the County Societies have had their day; have done all the good they can do, and now some other course must be pursued. What is the trouble, I asked. He replied, the Societies are in debt; they have to work to get money to pay their debts. We said to him, the Essex County Society have a fund of ten thousand dollars. What other trouble, said I. They have horse-racing, he replied. We said to him, we have none in Essex County. What other trouble, we asked. He replied, they have their shows located in some central place, and new Societies spring up around, which are detrimental to the parent Society. We replied, we are not troubled in Essex County in that respect, as the place for holding our shows is changed from one place to another around the County, and we are not troubled with new Societies. He replied, it is said you have the best Society in the State, and I believe it.

Now if this gentleman's opinion is correct, and we think we have no reason to doubt it, why not continue to pursue the course practised for fifty years, and which has been so successful?

REMARKS OF HON. RICHARD GOODMAN.

Mr. President, Ladies and Gentlemen:

I am rejoiced to meet with you on this auspicious occasion, and cannot refrain from congratulations upon the success of your annual fair, evinced by the crowds of people who have visited your grounds, your horticultural hall and the ploughing match, and who have listened to the address of the distinguished orator, and are now crowding this edifice. But as I am

sent here from the State Board of Agriculture to spy out the land, and make a full and fair report of your short as well as full comings, it can do no harm to inform you in advance of the impressions some of the scenes and incidents have made upon me. The fact that an Agricultural Society could flourish without a horse trot, was of course an agreeable surprise almost equal to that occasioned by a view of the "purple Leghorns," a new species of poultry unknown heretofore in the history of the gallinaceous tribe, and if not dyed in the wool for the occasion, they will be a valuable addition if only for their gay plumage. Another surprise was a sight of veritable Ayrshire Cattle belonging to your eloquent representative on the State Board. On the principle that the men who write the best works on law, medicine and theology, are not apt to be those engaged in active practice in those pursuits, we have in our region of the State—the extreme Western—assumed that so eloquent a theorist must draw upon his neighbors' fancy stock for illustrations and study, but I can now happily report that Dr. Loring has not only real cows and horses, but big pigs and beets, and his farming is not a myth, but honest and good. I was not surprised by your excellent show of stock, including horses, and of your fruits and flowers, as I heard of them, but as so much has been said of the depopulation of this county, I thought it possible you might draw upon the neighboring cities for many of your young men and women, but I am informed that that staple is homebred and it does credit to your bringing up. I have not been able until this year to visit the agricultural shows outside my own county, excepting one instance, at Fitchburg, but the more I see of these Institutions, the greater appears their influence as educators. They bring together the best of everything, including intelligent opinion, and promote competition, and lead the mind to reflect and improve upon what has been opened. They are essentially a modern invention. A great deal is said about the lost arts, and that antiquarian researches in the

history, of old civilizations, especially those of the Egyptian and Chinese, bring to light many customs supposed to be modern. But though the great empires of the past, encouraged agriculture by festivities and processions, we read of no shows or fairs at all comparable to those now permeating our land, and certainly no process next to attendance in youth at agricultural schools and colleges could do so much for the rising generation of farmers. I am glad to learn that you as a society so fully appreciate the necessity of education for our young men in rural life as to support two scholarships in the agricultural college at Amherst. It is too late in the day to adduce any new arguments in favor of that institution. Its merits are being brought to the notice of the farmers throughout the land, and when they fully understand its meaning and objects, they will unite as one man in its support. I trust also that the condition of the young women in agricultural and horticultural pursuits is not to be overlooked. A boy at school in your neighboring town of Danvers, being asked why he never would vote for women for office when he got to be a man, replied, "*because they were afraid of caterpillars.*" I cannot vouch for the correctness of this assertion, but we know they are too deficient in the knowledge of out door things which would not only afford them much pleasure, but give them opportunities of assisting their parents and husbands in the vocations they pursue. Most of the virgins, and their name is legion, who adorn our State, seeking whom they may devour in the way of *husbands*, are probably better instructed than the daughter of the contraband, who, being requested to indicate what kind of accomplishments she was desirous of having her hopeful daughter pursue, said, "De gal muss be larned de piano and painting any how: and mebbe arter a while, readin and writin!" Our 'gals' would be a great deal happier and much more useful if in addition to these accomplishments they could in the absence of parent or brother or husband—when obtained—give intel-

ligent directions about carrying on the farm, and be able to cultivate the garden, and raise fruits and flowers. But the good time is coming, and we shall soon see them running a strong strife with their brethren in the schools and colleges for a thorough agricultural education.

My friends I have had a pleasant time with you, and something a great deal worse could befall me than again to meet at your annual gathering and enjoy a feast of reason and flow of soul akin to those vouchsafed here to-day, and the hospitality of your President and Secretary.

REMARKS OF CHARLES L. FLINT, ESQ.

Mr. President, Ladies and Gentlemen:

It gives me pleasure to visit once more my native county of Essex, and to witness a genuine, old-fashioned Cattle Show. Your Society has been prosperous. The Exhibition to-day is in the highest degree creditable to the officers, the members and to the County, whose industry and enterprise it so truly represents. It is seldom that a simple ploughing match attracts so large, so intelligent and so interested a crowd of spectators. It shows that a strictly agricultural show, designed to illustrate and to encourage the farming industry of the County, and conducted simply and chiefly as a means of instruction, without the advantages of located grounds and the adventitious allurements of a track, can still be made a success within this Commonwealth.

The show in the hall of fruits and vegetables is equal, and, in many respects, vastly superior to any that I have witnessed at any county show this year, while the stock would do credit to any society in the State. All departments of the Fair seem to be complete, and to justify the policy which the Society has so steadily pursued during the long course of its history.

It is true you have to forego some of the great and manifest

advantages of fixed and located grounds and halls for the exhibition of articles and for the annual dinner, but these advantages are small, very small indeed, and of little account compared with the more complete attainment of the real objects and purposes of the Society, the development of the agriculture, the horticulture, and the mechanic arts in all parts of the County. Had half the Societies of the State adopted the migratory system they would have been more prosperous and more useful to-day, and what is more they would have kept up a live and active interest in the more remote parts of their field of operations, where their influence is rarely if ever felt. When a Society locates and settles down, its influence soon becomes circumscribed within narrow limits, being confined to the little circle of towns around its place of exhibition. An examination of the official returns will prove this most conclusively and show that by far the larger portion of its bounty is distributed in its immediate neighborhood, the more distant parts of its territory scarcely heeding its existence. I know of no exception to this. The influence of such a Society soon becomes localized and narrowed down to comparatively small limits. The Fair gets to be an old story. So far as my observation has gone for the last eighteen or twenty years, it has been decidedly in favor of the system which you have adopted, and I have often had occasion to refer with pride and satisfaction to your example as worthy of imitation.

You may know that many Societies have been brought up this year around a rather sharp turn. The last Legislature passed an Act by which no Society can draw in any one year an amount of bounty greater than it actually awarded and paid out during the year previous. Some of the Societies which have been drawing $600 a year from the State, will this year receive less than $200. It shows that the time has come when the Societies are expected to do more in return for the bounty they receive, than they have hitherto done. The State expects, and it has a right to expect, that the Societies will render an

equivalent for the money they receive from the State Treasury.

Now the time has come, it seems to me, when the Societies should consider whether there are not other and new ways of accomplishing something for the public good, whether some improvement may not be made in the old stereotyped premium list, by which a new interest may be awakened in the public mind.

Suppose, for instance, a Society should offer liberal prizes to any town that shall present the greatest improvement in its public roads, and appoint an intelligent committee, consisting, in part at least, of competent road engineers, to visit, examine, and report upon such roads as might be entered for competition. What is more important to a community than good roads! They are the true criterion by which to judge of the progress of civilization. Go where you will through the most highly civilized countries of Europe and you will everywhere find good roads, not turnpike roads, exacting a toll of every traveller, but free to all.

I recollect in travelling down through the little canton of Uri in Switzerland, that what surprized me most was not the grand old mountains, rearing their ice-capped peaks in majesty to heaven, but the beautiful roads, the work of man's hand, built by the people of a little canton, not half so wealthy as the County of Essex, over mountain passes, involving the highest engineering skill, spanning torrents with the most graceful of arches, with a road bed perfect as a floor. Are we not as able to have as good roads as the mountaineers of Switzerland?

Now I merely suggest this as one of the ways in which a Society might make its influence practically felt for the benefit of the whole community. But there are many other ways in which good might be accomplished. Suppose the Society to offer liberal prizes for the best methods of shoeing a horse; that the operation were to be performed on the grounds at the time of the Fair, and in presence of the people in attendance,

the operator stating the reasons for his method, and explaining so far as he could, the wonderful and delicate structure of the horse's foot. Would it not awaken a new interest in this important art?

What animal is there, more important to civilized man than the horse! And how many horses are injured, often permanently, by improper shoeing! Now I don't pretend to know anything practically, about shoeing a horse, and what is more, I don't believe that one blacksmith in a hundred, thoroughly understands his business; but there are those that do, and it is such men that I should like to see at work in the presence of just such an intelligent crowd as we saw at yonder Ploughing match. It would do good, set people to thinking about, and studying, the structure of the horse's foot, and lead to better work hereafter.

And then what a grand work lies open to the societies in instituting and encouraging more accurate, more minute and careful experiments. We have more or less experiments tried now, but few of them are what they ought to be, because they are wanting in some of the elements of accuracy, or attention to details which constitute their whole value. Experiments properly made and accurately and honestly reported, are the chief means of adding to our present stock of knowledge in agriculture. They cost money and time, and hence the importance of aiding them by all the influence of a powerful society.

Many of you have heard of the admirable and extensive experiments of Messrs. Lawes and Gilbert in England. They constitute perhaps, the most important contribution which science has made to practical agriculture during the whole course of the nineteenth century. I have been so much interested in them that I took great pains at the time of my last visit to England, to visit Rothamstead to examine their Laboratory, their experimental fields, and their collections. Mr. Lawes, a man of large means, and of a large and liberal heart,

associated with him Dr. Gilbert, a man of great scientific attainment and of unbounded perseverance, and they have done a truly noble work for agriculture, and have built a monument for themselves more durable than brass.

Now it is just such experiments, careful, accurate, questioning nature to ascertain her laws, that every society should encourage. Every effort of the kind ought to be understood and appreciated as it deserves, and any man who is willing to spend the time and apply the labor to conduct such experiments, deserves well of the community and of the whole body of intelligent and progressive farmers everywhere.

Well, now, I merely throw out these suggestions as hints that may be worth considering, and to show that there may be other ways than those generally adopted, of creating an interest in our shows. Every society that is alive to its own interests, and to the interests of the community, will study new methods of doing good, and guard against falling into a dull routine and into the ruts of custom.

Let me, in conclusion, urge you to renewed effort, taking the grand success of your Fair to-day as a starting point, and entering upon a new era of usefulness and labor, so that hereafter, if there should be any cavil in the Legislature or in the community, about the good of the societies, you can point proudly to your record, till no one shall care to go beyond the year 1870, to establish your claims to the bounty of the Commonwealth.

REPORTS, &C.

BULLS.

The Committee on Bulls having attended to the duties assigned them, beg leave to submit the following report:

They award to D. F. Appleton, of Ipswich, for "Kerry" bull, first premium, diploma and $10.

To R. S. Rogers, of Peabody, for "Jersey" bull, first premium, diploma and $10.

To Francis Dane, of Hamilton, for "Jersey" bull, second premium of $5.

To D. S. Caldwell, of West Newbury, for "Ayrshire" bull, first premium, diploma and $10.

To C. C. Adams, of Newbury, for "Ayrshire" bull, second premium of $5.

Committee—J. Longfellow, Jarvis Lamson, Charles Patch, Daniel G. Chapin.

MILCH COWS.

The Committee award the first premium to Henry G. Kimball, of Bradford, for his grade Dutch cow, diploma and $15.

No other cows exhibited had the required statements which would entitle them to a premium.

We would make honorable mention of the Kerry cows exhibited by D. F. Appleton, of Ipswich.

Chairman of Committee—Wm. R. Putnam.

HERD OF MILCH COWS.

The Committee report that but one entry under this head was made, that by Francis Dane, of Hamilton. This entry consisted of five pure Jerseys, whose average yield through the season had been twelve quarts each per day, and through June and July fourteen quarts. Their milk is stated to be very rich and peculiarly adapted to the making of butter; their feed, grass, corn fodder, meal and shorts, two to three quarts of the latter per day when the pastures were short. The Committee regret that there were not other entries of herds of milch cows, considering it of more importance that a large number of cows on a large farm should be good milkers, than that here and there a single cow should be found of extra milking properties. It is only by the greatest care that the standard can be kept up in a large herd, but where it is done and the purity of a particular breed maintained, it will assuredly pay in the increased demand and price of the progeny of such breed. Mr. Dane's young Jerseys already commend themselves to purchasers, and we see no reason why the demand for this stock, for years to come, will not be kept up at least to its present mark.

We award to Mr. Dane the first premium of $15.

For the Committee—Allen W. Dodge.

HEIFERS.

Your Committee on Heifers, namely, three years old, two

years old, yearlings, and calves, have attended to their duty, and submit the following report:

Sixteen entries were made, representing fifty-three animals.

For three years old, they award to Henry G. Kimball, Bradford, the first premium, a diploma and $10.

To Francis Dane, Hamilton, second premium for Daisy 2d, $8; do. third, for Nellie 2d, $5.

Two Years Old.

To Francis Dane, Hamilton, first premium for Jessie 3d, $8.

To S. K. Bartlett, Newburyport, second premium, $5.

To Francis Dane, Hamilton, third premium for Kate 3d, $3.

Yearlings.

To Francis Dane, Hamilton, first premium for Venus 2d, $5.

To S. T. Newman, Newbury, second premium, $3.

For the best lot of calves (four in number), the premium, $6, was awarded to Francis Dane, Hamilton.

This was the only lot of calves entered.

The animals presented were full bloods of the Ayrshire and Jersey breeds, and grades from each breed; a small herd of Kerrys from D. F. Appleton, Ipswich; and a grade Dutch heifer from Henry G. Kimball, Bradford.

The Committee would suggest that to reach the object desired, namely, the improvement of dairy cows, it would be well to classify each breed, and offer premiums for the best of each. Under the present arrangement it is very difficult to make just awards. Each breed has its friends. It is very hard for a breeder who thinks the Jersey the only stock worth raising, to see anything to approve in an Ayrshire when brought into direct competition with his favorites; and so with all the other breeds.

Let, then, each breed be classed by itself, and the grades of each breed by themselves; the natives and their stock to make another. Then offer only one premium for the best of each class, justice could thus be done to each class, and all have a fair chance in the awards.

A fine herd of Ayrshires were offered by Dr. Loring, for *exhibition* only. Would they not have been offered for premiums had each breed been allowed to compete with those of its kind?

A native cow, however superior, has no chance when brought into competition with the graceful Ayrshire, or the fawn-like Jersey.

The full bloods, so long as they command such large prices, are not the stock for a farmer who wishes only milk or butter. In view of the many casualties that are constantly occurring in his herd, he cannot afford to risk so much money in keeping them.

What the farmer needs is a small-sized animal, that will thrive well in our northern pastures, that, with fair feeding, will give a large flow of milk, and that shall not cost more than $75 or $100 when at the best.

A full blooded bull, either Ayrshire or Jersey, crossed with our best native cows, will give the animal needed. If quantity of milk is the object, cross with the Ayrshire; if richness, with the Jersey. From this cross select the best. If you find a calf that has a small, long head, dark and lively eye, a long and slender neck, fore quarters light, but hind quarters large and well developed, hair soft and glossy, raise her. A calf with these points, or most of them, will almost invariably make a cow that will pay the owner to raise. But, with all these points, unless proper care is taken to develop them by a *constant growth*, from birth to maturity, your labor will be lost, and you will be doomed to disappointment in the result.

The Committee would again suggest that, as the breeding of profitable cows is one of the most important interests of our

Essex County farmers, that more and larger premiums be offered; that each breed, and grade, as well as natives, be classed separately and premiums offered for each; that no premium shall be given any animal unless bred by the owner, and unless a written statement accompany the entry, giving the particulars in regard to breeding, and feeding.

Signed by the Committee.

Committee—John L. Shorey, Lynn; James Flint, Middleton; Grover Dodge, Essex; Nathaniel Carlton, Bradford; Israel F. Tappan, Manchester.

WORKING OXEN.

The Committee on Working Oxen report: That there were twelve entries, and eleven pairs of cattle contested for the premiums, and they award the first premium of $12 and diploma to N. Little, Jr., of Newbury. The second of $10 to John S. Preston, of Danvers, and the third premium of $8 to Micajah Treadwell, of Ipswich.

This number of working oxen entered for premium in Essex County, which is not a stock-raising region, would seem to show that *all* of the farmers of Essex County are not disposed to use horses in preference to oxen for farm and road work, even in these fast times. Yet we are aware that many entirely ignore an ox team, especially on the road. Not so the Wilmington farmer, A. G. Sheldon. Starting in June, 1812, he commenced carting hops from Wilmington to New York with horses, but after two or three journeys he used oxen and continued the business to the end of the war. In a long journey like this, if anywhere, the horse should have shown his superiority; but Mr. Sheldon, after trial, preferred the ox, and further says that every ox came back as ready to work as when he started.

The question after all is which will do the most work at the

same expense, and it is a question which will not be decided till farmers become more methodical and careful in their accounts. Yet in a rough way we can show differences which it will be well to weigh before the ox is given up for the horse.

In the first place, the liability to accident and wear and natural depreciation will use up the horse in about seven years of service.

Take the ox in comparison, with the same kind of food, allowing good care in both cases. Four pairs of oxen should have been bought and sold with an increase in each case. A broken-legged ox is worth about as much for beef as a sound one; but beef must be higher, and our people's prejudice removed before as much can be said of the horse.

Then in regard to the harness. A simple yoke for the ox costs new, all ready for work, eight dollars, and lasts, without repairs, for years. Will some of the friends of the horse tell us how much it costs for a new harness for a pair of horses and the repairs for five years?

For the Committee—Francis Dodge.

STEERS.

The Committee on Steers award to William Foster, of North Andover, for three-year-olds, second premium, $5.

To Hiram Young, of Newbury, for yearlings, first premium, $4.

Committee—Benjamin P. Ware, Benjamin E. Emery, A. P. Fuller, M. S. Jenkins.

STALLIONS.

The Committee on Stallions, four years old and upwards, present the following report:

For the best stallion four years old and upwards, first premium, diploma and $15, John Gardner, Haverhill.

Second premium, $10, Charles O. Putnam, Danvers.

Third premium, $8, N. Little, Jr., Newbury.

For the best stallion three years old, first premium, $8, Francis Dane, Hamilton.

Second premium, $5, George B. Martin, Danvers.

The Committee desire to particularly notice as worthy of premiums, were there more at their disposal, the colts of E. Battelle, Newburyport; A. H. Patch, Hamilton; C. M. Lunt, Newbury.

For the Committee—Samuel C. Oliver, Chairman.

BREEDING MARES.

The Committee award to Francis Dane, of Hamilton, the first premium, diploma and $15.

To S. C. Morse, of Haverhill, second premium, $10.

To E. G. Elliott, of Georgetown, third premium, $8.

Committee—Charles C. Blunt, Seth Kimball, Isaac F. Knowlton, C. M. Lunt.

FAMILY HORSES.

Your Committee had considerable hesitation in deciding upon the claims of the unusual number of fine family horses presented for premium, and were particularly gratified in the exhibition of their various qualities. Many of them appeared admirably qualified for the many uses which a practical man or farmer needs in a family horse.

It is rare to meet with a horse fully suited to the many requirements of the family or the various uses of the farmer;

greater inducements are offered for the production of *speed* than the simple but more useful qualities of a good family horse. And your Committee were unanimous in the expression of their hope that our enterprising young agriculturists would be encouraged to present for exhibition a greater number of animals of superior excellence for such purposes.

Your Committee award the first premium, diploma and $15, to R. S. Rogers, of Salem; the second premium of $10 to Orin Putnam, of Danvers; and the third, of $8, to John Swinerton, of Danvers.

Horses presented:

One chestnut horse, 9 years old, weight 1150 lbs., I. Huckins, Ipswich.

One grey horse, 12 years old, weight 1150 lbs., R. S. Rogers, Salem.

One sorrel horse, 12 years old, weight 1000 lbs., B. F. Jenkins, North Andover.

One dark bay horse, 5 years old, weight 1050 lbs., Orin Putnam, Danvers.

One bay horse, 5 years old, weight 940 lbs., John Swinerton, Danvers.

One black mare, 7 years old, weight 950 lbs., E. C. Brown, Ipswich.

One grey mare, 7 years old, weight 1210 lbs., Francis Dane, Hamilton.

One bay horse, 8 years old, weight 1050 lbs., William D. Chamberlain, Lynn.

Committee—George W. Keene, of Lynn; William G. Brown, of Ipswich; E. H. Little, of Newbury; William J. Dale, of North Andover.

FARM AND DRAFT HORSES.

The Committee upon Farm and Draft Horses award a

diploma and first premium, of $12, to Edwin C. Little, of Newbury.

Second premium, of $10, to B. H. Farnham, of North Andover.

Third premium, of $8, to A. Knowlton, of Essex.

Fourth premium, of $5, to William J. Cheever, of North Andover.

Francis Dane, of Hamilton, entered his nice imported mare, Empress, weighing 1550 lbs.; the Committee considered her too heavy for common farm purposes.

Committee—Richard S. Bray, Samuel A. Merrill, Charles Perley, W. J. Dale, Jr.

COLTS.

The Committee award the following premiums:

Colts Four Years Old.

To Richard S. Rogers, of Salem, first premium, diploma and $10.

To Bennett Griffin, of Gloucester, second premium, $5.

Colts Three Years Old.

To Hiram T. Balch, of Groveland, first premium, $6.

To Francis Dane, of Hamilton, for his "Empress, 2d.," second premium, $4. Sire, imported "Orleans."

Colts Two Years Old.

To George B. Martin, of Danvers, for his colt, "Lady Linn," first premium, $5. Sire, "Danvers Boy."

To Francis Dane, of Hamilton, for his colt, "Young Morrill, Jr.," second premium, $3. Sire, "Young Morrill."

Colts One Year Old.

To John Gardner, of Haverhill, first premium, $4.

To George B. Martin, of Danvers, for his colt, "Lady Jennette," second premium, $3. Sire, "Danvers Boy."

The Committee report that it is rare to see so many fine colts together as have been entered this season, but the amount of money to be divided is so small that only a few premiums can be awarded, while honorable mention must suffice for others of conspicuous merit, but such distinction might appear disparaging to the rest.

Committee—Thomas Appleton, C. H. Gould, Sherman Nelson, Francis H. Appleton.

SWINE.

The Committee on Swine award to Henry Saltonstall, of Peabody, for the best boar, first premium, diploma and $8.

To George Ober, of Beverly, second premium, $5.

To William Foster, of North Andover, for breeding sow, first premium, diploma and $8.

To Francis Dane, of Hamilton, second premium, $5.

To Francis Dane, of Hamilton, for weaned pigs, first premium, $5.

Chairman of Committee—Joseph Kittredge.

SHEEP.

The Committee on Sheep respectfully report that there were three entries of sheep,—two flocks of Cotswolds and one of grade South Down.

The Cotswolds were exhibited by Francis Dane, of Hamilton, and Daniel F. Appleton, of Ipswich, and both flocks consisted of large and well formed animals, in fine condition. The grade South Downs were exhibited by Benjamin D. Appleton, of Ipswich. They looked small and inferior by the side of

the Cotswolds, but they were compact and smooth in their form, well wooled, and in good condition; and would probably be as profitable in the usual course of husbandry as the larger and more fashionable sheep.

Mr. Dane and Mr. B. D. Appleton were the only exhibitors of ten or more ewes; and we award the first premium for such a flock to Francis Dane, of Hamilton, and the second to Benjamin D. Appleton, of Ipswich.

The yearling Cotswold buck, No. 47, exhibited by Mr. Daniel F. Appleton, of Ipswich, was adjudged the best exhibited (except the older ram of Mr. A., which received the first premium of this Society in 1869, and was therefore excluded from competition), and to him we award the premium for the best buck.

Mr. Dane and Mr. D. F. Appleton were the only exhibitors of lambs for premium; and we award the premium for the best lot of lambs, not less than four in number, to Daniel F. Appleton, of Ipswich.

On inquiry the Committee ascertained that both flocks of Cotswolds had been fed with grain for some time, and their merits as profitable animals could not therefore be ascertained by a comparison with a flock, like the grade South Down, that had had nothing but grass during the summer.

The owners of the Cotswolds both take much interest and a commendable pride in their fine stock, and keep them, as a matter of taste as well as to raise breeding animals for sale; and do not judge of the profit of an animal, as most farmers are compelled to do, by the best return of wool and meat for the food consumed.

In entering upon the duty assigned them, the Committee were embarrassed by the ambiguity of the terms in which the premiums were offered, and which were construed differently by the contributors. One exhibitor, for instance, offered his best ten animals, part rams and part ewes, selected from a large flock; and another offered his *entire flock* of twenty or more

ewes. Under such a practice the selected ten would probably always average better than an entire flock, and yet the latter might contain ten better animals.

The Committee would therefore suggest, if it would not be better hereafter to make the offer more precise: to exclude rams from competition with ewes in the flocks, and to offer the premiums *for flocks*, either for the best *ten ewes*, or for the best *entire flock* of the exhibitor of not less than ten ewes, whichever the Trustees may think it best to require.

Exhibitors would all then understand that they were to bring either their entire flock, or their best ten ewes: and the Committee would not be perplexed by comparing entire flocks of more than ten, with ten selected animals. To test the qualities of a breed and the successful management of the shepherd, it is evident that competing animals ought to fare alike in the kind of feed: that they should have been kept on grain alone during the summer, or that a written statement of the food given them should be furnished. Without some such rule it is impossible for committees to form a correct opinion as to the superiority, *in real value*, of a breed or flock.

For the Committee—George Haskell.

POULTRY.

The Committee on Poultry report the following awards:

DIPLOMA.

For best collection of Fowls, to Mrs. G. L. Streeter, of Salem.

PREMIUMS.

Best trio Dark Brama Pootras, to Mrs. G. L. Streeter, of Salem, $2.

Best trio Light Brama Pootras, to S. L. Knight, of Danvers, $2.

Best trio Black Spanish, to E. R. Perkins, of Salem, $2,

Best trio White Leghorn, to Paul T. Winkley, of Newburyport, $2.

Best trio Creve Cœur, to Mrs. G. L. Streeter, of Salem, $2.

Best trio Houdans, to Edward Brown, of Ipswich, $2.

Best trio Games, to John Swinerton, of Danvers, $2.

Best trio White Dorkings, to Benj. Millett, of Danvers, $2.

Best trio Hamburghs, to E. R. Perkins, of Salem, $2.

Best trio Black Polish, to Mrs. G. L. Streeter, of Salem.

Best trio Bantams, to Paul T. Winkley, of Newburyport, $2.

GRATUITIES.

Paul T. Winkley, Newburyport, trio Plymouth Rock, $1; S. L. Knight, Danvers, trio Java, $1; E. R. Perkins, Salem, coop of Patridge Cochins, $1; Mrs. G. L. Streeter, Salem, Buff-Cochins, $1; John Swinerton, Danvers, trio Dominique, $1; Mrs. C. N. Cogswell, Essex, three Geese, $2; E. R. Perkins, Salem, Plymouth Rock, $1; J. P. Blackington, Rowley, coop of Ducks, $1; Paul T. Winkley, Newburyport, Ducks, $1.

The foregoing Report was rendered on the 27th of September, but by a vote of the Society was referred back to the Committee, for further consideration. We have taken the report into careful consideration, but justice to all parties compels us to abide by our first decision.

We would respectfully recommend taking from the premium list the Black Spanish and Game, and giving premiums to Dominique or Plymouth Rock, so called, which your Committee consider among the best birds in the County.

For the Committee—J. I. Ladd.

PLOUGHING—DOUBLE TEAMS.

The Committee on Ploughing with Double Teams have attended to the duty assigned them, and report the following:

To Jaques & Bray, Newbury, first premium of $12 and diploma; Plough, Nourse's Eagle, No. 20.

To Joseph Horton, Ipswich, second premium of $10; Plough, J. Nourse's Eagle, No. 20.

To Nathaniel Little, Jr., Newbury, third premium of $9; Plough, Improved Eagle, No. 20.

To Treadwell & Hodgdon, Ipswich, the fourth premium of $8; Plough, Hussey, No. 16.

Committee—James P. King, A. B. Fellows, Thos. G. Ordway, Wm. B. Morgan, S. A. Merrill.

PLOUGHING WITH SINGLE TEAMS.

The Committee award to R. T. Jaques, of Newbury, the first premium of $7 and diploma.

Committee—T. K. Leach, J. L. Newhall, B. Bradstreet, Geo. A. Lane.

PLOUGHING WITH HORSES.

The Committee report the following awards:

To Moody S. Dole, of Georgetown, first premium of $10 and diploma; Plough, Doe, No. E 3.

Committee—William Foster, Aaron Knowlton, Geo. B. Dodge.

PLOUGHING—SWIVEL PLOUGH.

There were but two competitors in the field, William Foster, of North Andover, and John S. Preston, of Danvers.

Foster used Nourse's iron plough, and Preston used Whit-

temore, Belcher & Co.'s plough. They both performed the work well, and in about the same length of time. Preston performed the work with two less furrows than Foster, and in the opinion of the Committee, had Preston taken less furrow slice and made more furrows the work would have been more perfect.

The Committee would recommend the first premium of diploma and $12 to William Foster, of North Andover.

To John S. Preston, of Danvers, second premium of $10.

Great improvement has been made in side hill ploughs, so that with some of our good farmers they have almost wholly taken the place of other ploughs, as they save the dead furrow (so called) and leave the ground in a more even state.

For the Committee—Joseph How.

PLOUGHING—BY BOYS.

The Committee on Ploughing by Boys, report:

The President of our Society this year offered another liberal premium for ploughing by boys not over 18 years of age. There was but one entry made, that by Charles Fish, of Danvers, 18 years of age. The team used by him was owned by Francis P. Putnam, of Danvers, and the plough he used was the Doe Plow, No. 3, sold by Whittemore, Belcher & Co., Boston. The Committee were of the opinion that the team was driven as well, and that the holding of the plough and performance of the work was equal to any on the ground. Probably the work done could not be excelled, by either man or boy, in Essex County. The Committee have cheerfully awarded him the first premium, $25.

For the Committee—Thomas P. Gentlee.

AGRICULTURAL IMPLEMENTS.

The Committee report:

There was a large assortment of Agricultural Implements presented, which appeared to be of excellent quality. Whittemore, Belcher & Co., of Boston, and Ames Plow Co., each presented several plows and other articles, which appeared to be of superior quality. There was some difference of opinion among the Committee, in regard to which of the competitors was entitled to the premium. It was, however, concluded to recommend the premium of diploma and fifteen dollars to Whittemore, Belcher & Co., of Boston, for their collection of implements and machines.

To E. A. Archibald, of Methuen, for the best Farm Wagon for one or two horses, the premium of $5.

To Amos Haseltine, of Haverhill, for his Centrifugal Sawing Machine, a gratuity of $1.

Also for his Threshing Machine, a gratuity of $3.

For his Cider Mill, a gratuity of $1.

To E. K. Lee, of Essex, for his Stump Puller and Rock Lifter, a gratuity of $3.

To Aaron Dodge, of Beverly, for his Pulverizing Harrow, a gratuity of $3.

There were various other implements and machines, which were not entitled to premium or gratuity, as they had no trial in the field.

Wood's Improved Mower, presented by John S. Preston, of Danvers, has been extensively used and is known to be a good mower.

The Clipper Mower, presented by Horace F. Longfellow, of Newbury, claimed some advantages over others, and is no doubt a good article.

The Advance Mower, presented by Aaron Dodge, of Beverly, is highly recommended and is known to be a good article.

The Eureka Mower, presented by W. J. Prescott, of Hampton Falls, is in some respects different from other mowers, as

it directly follows the horses. Advantages are claimed for this mower over others.

The Sprague Mower, from R. I. Co., is a new article, has been but little used, is said to be of easy draft, and makes good work.

Perry Mower, presented by Ames Plow Co., looks well and is presumed to be a good mower. It received the premium at the Paris Exposition in 1867, and also has received premiums from the New England Agricultural Society.

Bullard's Improved Hay Tedder, and Whittemore's Lock Joint Wheel Rake, were presented by John S. Preston, of Danvers; also the American Tedder, and Burt's Horse Rake, presented by Ames Plow Co., all appeared to be good articles, but as to their comparative value the Committee give no opinion, as they were not tried in their presence.

The Seed Sower presented by C. R. Sargent, of Newburyport, simple in its construction, is thought to be a good article.

The Horse Cart presented by John W. Dodge, of Salem, has a small wheel under the forward end of the cart. It attracted the attention of the Committee, who would call it to the notice of those who wish to purchase, so that they can judge for themselves.

Drain Tile were presented by Lawrence & Bodge, of Beverly, an improved article.

The Revolving Harrow by Asa Wade, of Ipswich, was not used, therefore the Committee are not prepared to give an opinion on its value.

Several Steel Plows were presented which appeared well, but their superiority over other plows is to be tested by their use.

The Pulverizing Harrow, above alluded to, was used on the plowing field with good success. It is claimed to stir the ground deeper than harrow or cultivator, and the Committee would recommend it to the attention of the farmers, and they can judge for themselves as to its merits.

We well remember the first trial of mowers in the County, July 16th, 1855, on Dr. Loring's farm in Salem, and on the

17th, on Col. Newell's farm in West Newbury. A large number of farmers were present, and probably many of them then saw a mower for the first time. They were imperfect, and the question was, will they come into common use! Since that time a great change has taken place. The mowers then used have given place to more perfect ones, and now but little grass is cut with the scythe. There is a great variety of mowers now in use, greatly improved from former ones. But Yankee ingenuity is not satisfied. New mowers are being made, which are claimed to be less complicated, with lighter draft, and to make better work. Therefore it is well for every farmer to look to the merits of the mower before he purchases. The horse rake and horse tedder have also been greatly improved. The tedder is of more recent origin, and not far behind the mower in saving labor, as turning hay by hand is a slow process, and must be done in the heat of the day, when other work is pressing.

As the profits of the farmer are small when compared with the price of labor, it is necessary that all the advantage should be taken possible of every labor saving machine. But as every improvement is not what it purports to be, therefore the utmost caution should be used against being imposed upon, as some of our good farmers have been.

The question often arises with those who have small farms, how far strict economy will justify them in purchasing improved implements, as a person may in some cases purchase more than strict economy will justify. Therefore every farmer should carefully count the cost and govern himself accordingly.

Another recent improvement which we think of great value should not pass unnoticed—the manufacture of iron hub team wheels by E. A. Archibald, of Methuen. It is well known that the iron hub for team wheels is coming into common use in Boston and many other places. Mr. Archibald's principal improvement is in pressing them together with great force, making them more perfect than they can otherwise be made. For further description I recommend the publication of Mr.

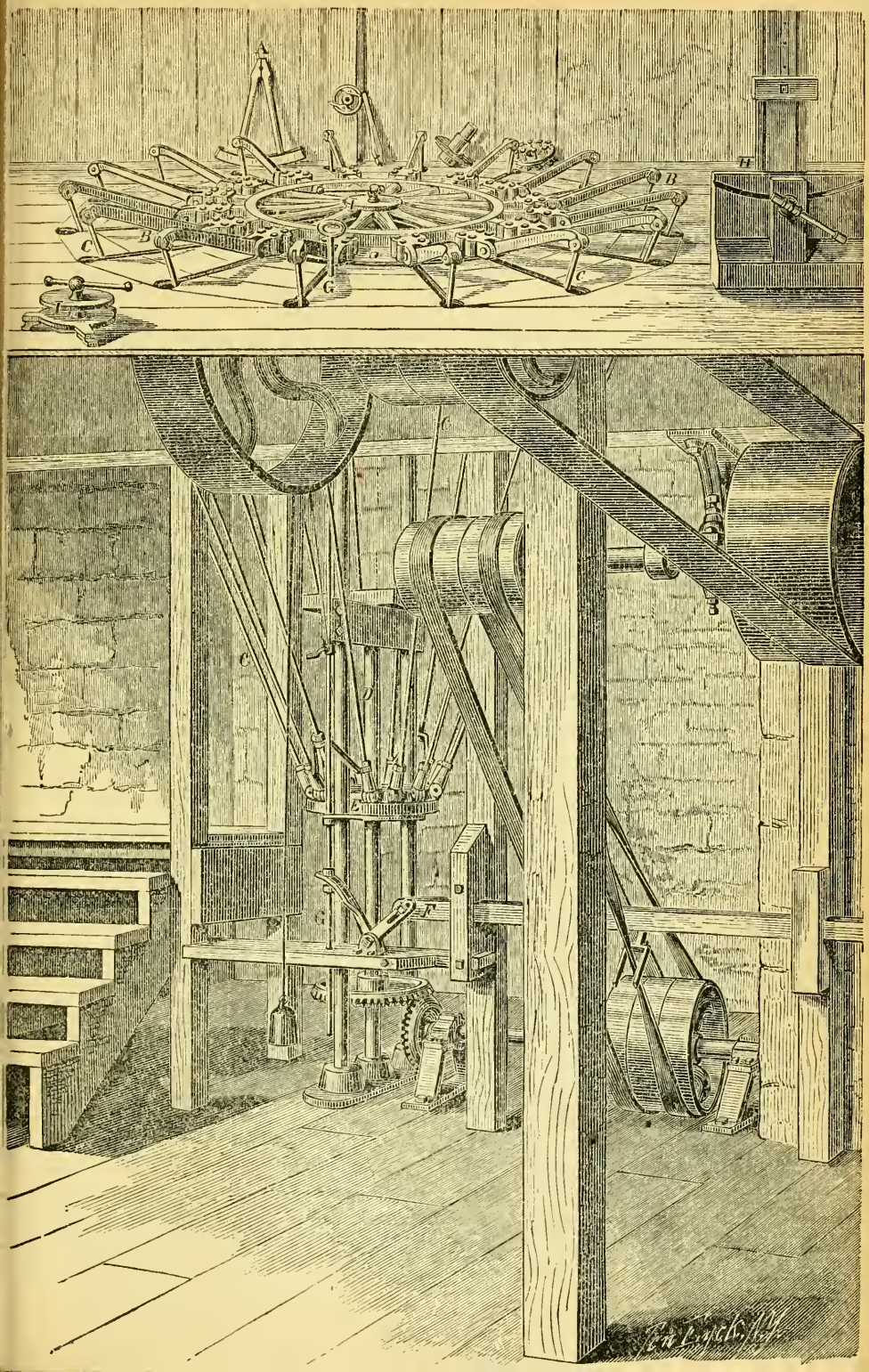
Archibald's statement published in the Scientific American, March 5, 1870. Since December last, the commencement of Mr. Archibald's business in his new factory, he has manufactured for J. C. Hoadley & Co., the well known portable engine manufacturers of Lawrence, eighty sets of wheels, with carriages for the conveyance of their engines. Those engines and wheels have been sent not only to different parts of our own country, but to foreign countries. They are also being introduced to the great wheat fields of the West for propelling threshing machines. In regard to the success of the wheels, I quote from Mr. Hoadley's letter which I have before me:

"My observation of the practical use of Mr. Archibald's wagon wheels has been rather limited, but sufficient to demonstrate their excellence and to confirm the opinion I had formed of them from theoretical considerations. Those which I observed had been exposed for several weeks to a temperature of about 230° Fahrenheit at the distance of about fifteen inches, and connected to the boiler by an iron axle, so that they received heat both from conduction and radiation. They were also exposed to the heat during a very dry time. The spokes were not loosened from each other by this heat. Their elasticity recoiling from the compression they had received from the Archibald invaluable press exceeding in amount the shrinkage of the wood in that direction.

"I have no doubt whatever that wheels made in this manner will retain their strength and firmness in any climate. Nothing can be more trying than the test of a threshing engine, and they bore this test perfectly."

Thus we have Mr. Hoadley's experience, his observation, and opinion, which seem to be conclusive evidence as to the value of the wheels. Mr. Hoadley's observation spoken of was on the wheat fields of the West.

Every person who has used wheels to much extent, knows the inconvenience and expense attendant in keeping them in place in a dry season like the past, as the spokes shrink, grow loose in the hubs, and consequently they must go to the black-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Improved Machine

FOR THE

Manufacture of Spoked Wheels.

This machine is designed to facilitate and improve the manufacture of that class of spoked wheels used upon heavy vehicles, in which the nave ends of wooden spokes are secured between flat nave plates of metal, one of which has a hub in which the axle bearing is made, and between which the nave ends of the spokes formed, as shown at A in the engraving, are firmly clamped by screw bolts.

The machine acts to force into close contact the flat surfaces of the spokes at their inner ends, and thus compact them, so that their faces form true circular planes upon which the inner faces of the flanges rest.

It will be seen that the machine occupies space upon two consecutive floors. A strong circular plate of cast iron, about seven feet diameter, having its upper surface faced off true, is placed horizontally level with the floor of the shop Arranged at equal distances around its outer edge are a number of levers, B, equal to the number of spokes to be set in the wheel—sixteen in this case—having their fulcrums securely bolted to the plate. The long arms of the levers radiate from the plate, about three feet, all around; the short arms are formed into cams, or rolling inclines, or curved wedges, acting upon sliding pins of cast iron, which move freely in a radial direction, in guides formed in the fulcrum blocks. When the long arms of the levers are raised, the sliding pins may be easily pressed outwards until they bear upon the cam-shaped short arms of the levers at the point nearest the fulcrum or center of motion of the lever. When the long arms of the levers are lowered, their sliding pins are forced inwards by the cams, and unite in pressing inward the wheel properly placed in their embrace. The levers are all actuated with rapidity, uniformity and certainty, by means of wrought iron rods, C, extending downwards from the ends of the levers, converging to a vertical column, D, under the center of the plate much as the braces of an umbrella extend downwards from the ribs to the stick. A screw is cut upon the central column, and a nut, E, answering to the slide upon an umbrella stick, raises or lowers all the levers at once, with great facility, and with any required power. Motion is given to the nut by means of beveled gears and a belt with fast and loose pulleys, so arranged, that, at the upward and downward limits the belt is thrown automatically upon the loose pulley, and the motion of the nut and levers stopped. Any required motion, either up or down, within the range of the screw, can be obtained with great delicacy and convenience by a shipper, F, actuated by a shipping rod, G The fellies and spokes, of seasoned second-growth oak, having been perfectly shaped and completely finished by machinery, are first put together by driving two spokes into a felly, one at a time, the felly being held firmly in a vise, H, specially constructed to prevent splitting of the felly or twisting of the spoke, so that a very good fit is obtained at this important point Eight fellies, with their sixteen spokes, are then placed in the press, when the perfection of the fitting is shown by the perfect joint made by the spokes when they meet in the circle to be curved and embraced by the cast-iron hub; and by the coincidence of the half-holes in the contiguous sides of the spokes, A, which together form the holes for the eight bolts that are finally to hold the hub plates together

Temporary hub plates, I—one above and one below—with a powerful screw in their center, hold the ends of all the spokes truly in the plane of the circular plate while undergoing the pressure of the levers. The extent of this pressure is ascertained by marking carefully with a sharp pencil around the circumference of the upper temporary hub plate after the spokes have been brought to a close, firm joint; and then the pressure is put on till the joint of the fellies close up. Another similar mark being made, upon the removal of the temporary hub plate it is found that a space of a quarter of an inch is made between the two pencil marks—a reduction in diameter of half an inch. Now as the difference in circumference corresponding to a difference in diameter of half an inch, is 1.5708 inches, this, divided by 16 (the number of spokes,) gives 0 098 of an inch, or substantially one tenth of an inch, as the lateral compression of each spoke This is by no means the limit, but is probably sufficient to secure the spokes against being loosened by shrinkage in any climate.

The hubs are firmly bolted together while the wheel is in the press, and hold the spokes securely The fellies spring apart a little, but only a little; and the tire easily makes that all firm again.

So great is the facility with which this machine is operated, that one man with an assistant easily puts together six sets—twelve fore wheels and twelve hind wheels—in six hours and forty minutes, including the time of adjusting machinery for the difference in diameter of the wheels. It is thought that the same machine would so compress wood as to make most admirable car wheels.

The great point in a wheel made in this manner is the thorough compactness of the hub-end of the spoke The other end of the spoke receives scarcely less benefit. By observing an old wheel it will be seen that the spoke is bedded into the felly This is done by degrees, and is unavoidable in wheels made in the usual way. The only way to keep the wheel together is to reset the tire so as to take up the looseness caused by this slow crushing process. By putting on a pressure of more than ten times the amount the wheel will ever be called upon to sustain in actual use, it is claimed that the spoke and felly are so compacted that if the tire is properly set, it will remain tight until worn out The wheels are made by this method perfectly round and true The pressure distributed about the rim can be varied from nothing to one hundred tons, if required.

There are reasons why iron-hubbed wheels made in this manner should be far superior to wheels with wooden hubs The spokes cannot crush into the hub, as they will do into wooden hubs, whether driven full size into a very large hub, as was the practice fifty years since, or as at present, into a smaller hub, the spokes having tenons and shoulders With wooden hubs the spokes are weakened just where they need the greatest strength, while in the iron-hubbed wheel the spokes are more than twice as large at the hub as a wooden hub wheel of corresponding size. It is also claimed that a wheel made on this plan will not shrink, and that as the bases of the spokes are as firmly compressed against each other as it is possible for wood to be, and held by metallic flanges firmly bolted together, it is the most mechanical and perfect method of constructing wagon wheels for heavy work yet devised.

Iron-hubbed wheels are becoming very popular in many localities, even when constructed in the comparatively imperfect manner employed before the application of this invention; and there is no doubt the improvement resulting from the method described will tend to make them more generally popular than hitherto.

Patented, Dec. 28, 1869, by E. A. ARCHIBALD, of Methuen, Mass.—*Scientific American, March 5th.*

smith and have the tires reset; and any one who has passed a blacksmith's shop during the late dry weather has noticed an almost constant business of resetting tires. The value of an improvement is in proportion to the amount the article is used. Wheels are used to an almost unlimited extent. Hence a small improvement would be of great value. If the improvement is as great as Mr. Archibald thinks it is—and Mr. Hoadley's opinion seems to corroborate it—it is of immense value, and is one of the greatest improvements of the day. And our observation in the manufacture of the wheels confirms the above statement. We would recommend to any one wishing to purchase wheels, to visit Mr. Archibald's factory, witness the manner of making them, and the mechanical genius there exhibited. We feel confident that he will not only purchase the wheels, but feel more than repaid for time and trouble. We have alluded to Mr. Hoadley's observation on the Western wheat fields. He had sold several engines to be used there, instead of horse power, for propelling threshing machines. He went there last summer to see their operation, which was a perfect success, both engine and wheels. They use the straw for fuel, which is very convenient, while it is worthless for other purposes. Thus we see the mechanical genius of Essex County is aiding the laborers of the far West in preparing their wheat for our own consumption.

For the Committee—Joseph How.

CARRIAGES.

The Committee award to G. W. Symonds, of Lynnfield, for best Express Wagon, the first premium, $5.

To William Noyes, of Newburyport, the second premium, $3.

To Erastus Clark, Jr., of Ipswich, for best Horse Cart, $2.

To E. A. Archibald, of Methuen, for best Iron Hub Wheels, a diploma.

For the Committee—Webster Smith.

DAIRY.

The Committee report the award of the following premiums for Butter:

To Amos F. Hobbs of Wenham, 1st premium, diploma and $10.

To Mrs. W. A. Dane, Hamilton, 2d premium, $8.

To Mrs. Oliver Patch of Hamilton, 3d premium, $6.

To Mr. Asa Wade of Ipswich, 4th premium, $4.

For best specimen of New Milk Cheese, 1st premium, to Joseph Goodridge of West Newbury, $8; 2d premium to Joseph Marshall of Ipswich, $5.

Committee—J. A. Putnam, Alonzo Smith, James Chamberlain, I. K. Jewett, Nath'l Lambert.

BREAD AND HONEY.

There were two entries of Honey and ten of Bread. After careful examination gratuities were awarded as follows:

To H. Alley, of Wenham, for Hive of Bees and Honey, $5.

To John J. Gould, of Ipswich, for Honey, $2.

BREAD.

To Mrs. R. K. Parker, of Groveland, $2.

To Mrs. H. B. Estis, of Peabody, $2.

To Mrs. L. D. Whipple, of Ipswich, $2.

To Mrs. C. A. Alley, of Wenham, $2.

To Mrs. Sarah Kennedy, of Ipswich, $1,

To Miss Ellen Manning, of Topsfield, $1.

To Mrs. J. Manning, of Topsfield, $1.

For the Committee—Tristram B. Fall.

PEARS.

The Committee on Pears report the collection as being very fine—there being seventy-nine entries, besides a large number

of contributions not entered for premium. Many of the varieties were so fine and so nearly equal in quality, that they found it quite difficult in awarding the premiums. Great credit is due to each and all that contributed to the exhibition. The Committee award the following premiums and gratuities:

One dollar each to F. Willcomb, Ipswich, Bartlett; N. Morse, Newburyport, Belle Lucrative; Mrs. T. Mosely, Ipswich, Flemish Beauty; Theo. F, Cogswell, Ipswich, Beurre Bosc; N. Morse, Newburyport, Beurre Superfine; J. V. Stevens, Peabody, Onondaga; F. S. Peck, Salem, Seckel; Charles G. Savary, Groveland, Winter Nelis; N. Morse, Newburyport, Vicar of Winkfield; Willard F. Kinsman, Ipswich, Buffum; John V. Stevens, Peabody, Lawrence; William Willcomb, Ipswich, Louise Bon de Jersey; S. Southwick, Peabody, Beurre Clairgeau; A. D. Wait, Ipswich, Golden Beurre of Bilboa; F. Willcomb, Ipswich, Howell; George Pettingill, St. Michael Archange; Charles H. Lake & Bros., Topsfield, Marie Louise; Lewis Choate, Ipswich, Beurre Hardy; A. Hodgkins, Ipswich, Duchess d'Angouleme; I. A. Rogers, Ipswich, Paradise d'Autumn; A. B. Fellows, Ipswich, St. Michael; N. Morse, Newburyport, Urbaniste; Geo. A. Hodgdon, Ipswich, Beurre Diel; N. Morse, Newburyport, Sheldon; John V. Stevens, Peabody, Doyenne Bossock; Charles H. Lake & Bros., Topsfield, Black Pear of Worcester; N. Morse, Newburyport, Beurre d'Anjou.

For the best collection of twenty varieties, N. Morse, of Newburyport, $5 and diploma.

For the best collection of ten varieties, R. Jordan, of Ipswich, $3.

For the best plate of Pears, not less than twenty-four specimens, R. Daniels, of Ipswich, $5 and diploma.

GRATUITIES.—$3 to Peter Wait, Danvers, basket of fruit; $2 to Mrs. N. R. Wait, basket of fruit. $1 each to the following for fine specimens: George Pettengill, Salem; J. Ross, Charles Howe, Mrs, Eben Caldwell, Mrs. E. A. Downie,

Daniel H. Fellows, John Birch, Ira Worcester, Ipswich; D. G. Todd, Rowley; S. Southwick, Peabody.

For the Committee—Saml. C. Pitman.

APPLES.

The Committee on Apples are pleased to report an unusual display in this department, consisting of over three hundred plates, and would award the following premiums and gratuities:

Best collection of twenty varieties, to B. P. Ware, of Marblehead, diploma and $5.

Best collection of ten varieties, to W. P. Phillips, of North Andover, $3.

Best twenty-four specimens, to T. K. Leach, of Topsfield, diploma and $5.

Best Golden Russet, to S. L. Knight, of Danvers, $1.

Best Fameuse and Porter, to C. H. Lake & Co., Topsfield, one dollar each, $2.

Best Pickman Pippin, to B. P. Ware, of Marblehead, $1.

Best Baldwin, to Amos Brown, of Danvers, $1.

Best Hubbardston, to William Stone, of Ipswich, $1.

Best Hunt's Russet, to Amos Brown, of Danvers, $1.

Best Danvers Winter Sweet, to Mrs. T. Mosely, of Ipswich, $1.

Best Seaver's Sweet, to B. P. Ware, of Marblehead, $1.

Best Gravenstein, to Chas. P. Savory, of Groveland, $1.

Best Minister, to James Wilson, of Topsfield, $1.

Best Sweet Baldwin, to B. P. Ware, of Marblehead, $1.

Best Ramsdell Red Sweet, to Geo. Haskell, Ipswich, $1.

Best Roxbury Russet, to Aaron Low, of Essex, $1.

Best Rhode Island Greening, to Greenleaf Plummer, of Newburyport,, $1.

Best Drap d'Or, to B. P. Ware, of Marblehead, $1.

Best Lyscom, to Asa Burnham, of Ipswich, $1.

Best Ladies' Sweeting, to George Haskell, of Ipswich, $1.

Best Swaar, to Peter Wait, of Danvers, $1.

Best Northern Spy, to E. Vose, of Ipswich, $1.

Best Haskell Sweet, to B. P. Ware, of Marblehead, $1.

GRATUITIES.

To Samuel Adams, of Topsfield; A. Titcomb, Rowley; A. T. Potter, Ipswich; Daniel S. Todd, Rowley; R. Jordan, Ipswich; Greenleaf Plummer, Newbury; F. W. Cook, Salem; David Clark, Topsfield; Aaron Low, Essex; one dollar each.

To James Wilson, of Topsfield, 2 dollars.

To Reynold's Farm, Boxford; E. G. Hyde, Danvers; S. N. Baker, Ipswich; Moses Clark, do; James Gwinn, Hamilton; Mrs. Daniel Hopkinson, Groveland—50 cents each.

Committee—D. H. Stickney, J. M. Ives, T. C. Thurlow, William Chickering.

PEACHES, GRAPES AND ASSORTED FRUIT.

The Committee on Peaches, Grapes and Assorted Fruits report the following awards:

PEACHES.—Mrs. Samuel Adams, Topsfield, White Freestone; Thomas Capers, Newburyport, Yellow Flesh; J. M. Ives, Salem, Essex County Seedling; first premium of $1 each. Luther Burnham, Essex, gratuity of $1. B. A. Gray, Salem; D. R. Ruthford, E. C. Greenwood, John Perkins, Ipswich; gratuities of 50 cents each.

ASSORTED FRUIT.—Peter Wait, Danvers, first premium, $3; R. Jordon, 2d, premium, $2; N. R. Wait, Ipswich; N. Morse, Newburyport; gratuities of $1 each.

GRAPES.—John Perkins, Ipswich, Concord; D. H. Stickney, Groveland, Hartford Prolific; G. W. Gage, Methuen, Isabella; R. Daniels, Ipswich, Delaware; D. H. Stickney,

Groveland, Iona; R. Jordan, Ipswich, Israella; D. H. Stickney, Groveland, Adirondack; D. H. Stickney, Groveland, Rogers No. 4; G. W. Gage, Methuen, Allen's Hybrid; Thomas Capers, Newburyport, Diana; G. P. Savory, Groveland, Crevelling; first premtum of $2 for each variety.

Aaron Low, Essex, best assortment of cold house Grapes, first premium, $3. D. H. Stickney, Groveland, best collection of ten varieties, first premium, $5.

GRATUITIES.

Franklin Upton, Danvers, assortment of Grapes on stand; G. W. Gage, assortment of Grapes; $2 each; John Perkins, Ipswich, display of Grapes; Peter Wait, Danvers, display of Grapes; Mrs. L. Mallard, Methuen, New Seedling (Lady Mallard); Robert Bailey, Newburyport, cold house Grapes; R. Jordan, Ipswich, assortment of Grapes; George Haskell, Ipswich, cold house Grapes; Mrs. Eben Caldwell, Ipswich; $1 each. Franklin Upton, Danvers, Rebecca; G. W. Gage, Methuen, Salem Grape; N. R. Wait, Ipswich, Diana; D. R. Rutherford, Ipswich, Grapes, Aaron Low, Essex, Grapes; Abram Lord, Ipswich, Grapes; S. Southwick, Grapes; George Pettengill, Grapes, 50 cents each.

For the Committee—James R. Nichols.

FLOWERS,

The Committee on Flowers make the following awards;

PREMIUMS.

Best pair of Parlor Bouquets, Thomas Capers, of Newburyport, $3.

Best pair of Hand Bouquets, Robert Bailey, of Newburyport, $2.

Best dish of Cut Flowers, Thomas Capers, of Newburyport, $2.

Best 12 Dahlias, Mrs. M. A. Hill, of Peabody, $1.

Best 12 Verbenas, Robert Bailey, of Newburyport, $1.

Best Collection of Native Flowers, Mrs. W. S. Horner, of Georgetown, $1.

Largest and best display from one individual, Mrs. Robert Jordan, of Ipswich, diploma and premium of $3.

The premium of $3 for the best pair of Floral Designs, the Committee have divided between Mrs. J. V. Stevens, of Peabody, $1.50; and Miss Mary T. Caldwell, of Ipswich, $1.50.

GRATUITIES.

Display of Liliputian or Bouquet Dahlias, Bosson and Glover, of Salem, $1.

Autumnal Leaves and Native Ferns, Mrs. W. S. Horner, of Georgetown, $1.

Dish Bouquets, Sarah Baker, of Ipswich, 50 cents.
Mary E. Peatfield, of Ipswich, 50 cents.
Lizzie Farley, of Ipswich, 50 cents.
Arthur S. Kimball, of Ipswich, 50 cents.

Wreath of Wild Flowers, 50 varieties, Mrs. N. E. Ladd, of Groveland, $1.

A Design of Native Mosses and Lichens, by Master Neddie George, 12 years old, of Groveland, $1.

Bouquets, by Emma Wellington, of Ipswich, $1.

Dish of Petunias, by S. J. Fellows, of Ipswich, 50 cents.

Collection of Wild Flowers, by Clara A. Hale, of Rowley, 50 cents.

Committee—Thomas Morong, B. D. Hill, John Price, John Perkins.

VEGETABLES.

The Committee on Vegetables report fifty-four entries, and have awarded the following premiums:

For 12 best specimens each of early T. Blood Beet and early long smooth dark Blood Beet, $4 to S. A. Merrill, of Danvers;

For 12 best specimens intermediate Carrot, $2, S. A. Merrill, Danvers:

For 12 best specimens early horn Carrot, $2, M. F. Batchelder, Peabody;

For 12 best specimens late sweet Corn, $2, S. A. Merrill, Danvers:

For 3 best Savoy Cabbage, $2, M. F. Batchelder, Peabody; 3 best Drumhead, $2, Franklin Alley, Marblehead; 3 best large Drumhead, $2, Albert Titcomb, Rowley;

For 12 best large Dutch Parsnip, $2, Albert Titcomb, Rowley:

For 12 best round flat Tomato, $2, W. P. Phillips, North Andover; 12 best spherical Tomato, $2, S. A. Merrill, Danvers; best dish Tomatoes, $2, John Clark, Gloucester;

For 6 largest Mangold Wurtzel, $2, B. P. Ware, Marblehead;

For 12 best purple strap leaf Turnip, $2, H. A Stiles, Middleton;

For 3 best Autumnal Marrow Squash, $2, S. A. Merrill, Danvers; 3 best American Turban, $2, Franklin Alley, Marblehead; 3 best Hubbard, $2, G. B. Loring, Salem;

Best peck Danvers Onions, $2, Franklin Alley, Marblehead; peck yellow flat Onions, $2, S. A. Merrill, Danvers; peck red Onions, $2, Franklin Alley, Marblehead;

Best peck early rose Potato, $2, Daniel Foster, Beverly; peck Goodrich, $2, W. P. Phillips, North Andover; peck Orono, $2, M. F. Batchelder, Peabody.

Your Committee have also made the following awards as gratuities:

For Cauliflower, $2, to John Heard, Ipswich; Mountain Sprout Melon, $1, W. P. Phillips, North Andover; Vegetable Egg, $1, Robert Bailey, Newburyport; mammoth Squash, $1, John Perley, Newbury; varieties of Melons, $1, M. F. Batchelder, Peabody; Sweet Potatoes, $1, Sidney Low, West Gloucester; King of Earlies, $1, Aaron Low, Rowley; Peer-

less Potato, $1, D. G. Todd, Rowley; Celery, 50 cents, M. F. Batchelder, Peabody; box of Herbs, $1, do., do., do.; string of field Corn, $1 each to M. F. Hill, Newbury, and G. B. Loring, Salem; box of Cranberries, $1, H. A. Stiles, Middleton; Nova Scotia Oats, $1, G. B. Loring, Salem; crookneck Squashes, $1, Albert Titcomb, Rowley; Canada crookneck, 50 cents, S. A. Merrill, Danvers; red drumhead Cabbage, $1, Albert Titcomb, Rowley; Carter's improved hybrid Turnip, 50 cents, A. B. Fellows, Ipswich: best collection of Garden Seed, $8, Aaron Low, Essex.

Your Committee are pleased to be able to report that the display in the vegetable department of the annual exhibition of this season, was in some respects an improvement on that of last year. The new requirements were responded to in several products, and we trust that as they become more and more known they will recommend themselves to the intelligence of the farmers of Essex, and the result will be to gather to our annual fairs higher standards of excellence in the vegetable department. This change cannot be brought about immediately, but where such good farmers as Alley of Marblehead, and Merrill of Danvers, lead, others in time will be sure to follow. I would recommend that hereafter the premiums for Hubbard Squashes be limited to those weighing from eight to twelve pounds. Our exhibition of this season gave us some fine specimens, with the exception that the size of many of them was too great. We all know how destructive to both quality and purity is the tendency to select the largest specimens in the squash family, for stock seed. With the Hubbard it will result in the loss of the shell, a coarseness of fibre, and will ultimately destroy those characteristics which give it the greatest value for table use. We have lost the ancient excellencies of the Marrow, in all probability by this unhealthy course of sacrificing everything most desirable to mere size: let us fight a good fight for the Hubbard in its best estate, in this its home from which it first went out to be a boon to every table in the land.

In my report of last year I presented some of the best kinds of several varieties of vegetables. To "know Beans" is proverbially a measure of wisdom; yet the knowledge of the agricultural public of this vegetable, which demands its place in every garden, is not always exhaustive.

In addition to the old classification into bush and pole, we have the intermediate varieties. These are more productive than the common bush, require about three feet between the rows, where they will develop well at two and a half feet apart, and yet are not of so running a habit as to need poles. The Intermediate Horticultural is one of the best of the intermediates for family use. Grown on poor soil they almost lose their half running habit, but when grown side by side on rich land with the common bush, their distinctive peculiarities are always developed.

The great improvement in beans for use in a green state as "snap" beans has been made by the introduction of the wax varieties. A wax bean may be defined as a variety in which the inner membrane is absent. It is this inner membrane that makes the pod stringy and so worthless to the housewife as a snap bean as it advances towards maturity, and when mature it is this same membrane that gives the dry pod a definite shape. Of the pole varieties of the wax bean, the Indian Chief, (sometimes erroneously called Butter Bean,) is the oldest and best known—the bean is black; the Giant wax has a longer and broader pod and the bean is of a bright red color; the Black Algerian has the longest and broadest pod of all, which is of a somewhat purple color; the bean is black. The pods of both the Indian Chief and Giant wax are of the usual green color when they first develop, but turn of a very light waxy color and become translucent as they grow older, these and the Black Algerian remaining good snap beans until the pods begin to dry. There are three varieties of dwarf wax beans, only one of which is as yet to any extent known; this is the Black Dwarf. The bean of a new sort that has recently been brought to my notice, resembles very much the Early

China in color, and has the good characteristic of being thus far very pure. The Black Dwarf is much mixed up with the common bean, and I find that all of the wax family require to be cultivated with exceeding care with special reference to isolation to keep them pure. There is a whited warf wax that promises to be quite an acquisition, the pods being equally tender with the pole varieties, the other bush sorts being somewhat inferior in this respect.

Of the common bush beans I have found none equal either in earliness or hardiness to the Fegee, which I would recommend as a string bean, the pods not filling out as well as most kinds. For a bean that combines earliness with good qualities, both as a snap and shell bean I know none superior to the Dun Cranberry. The Early Valentine is a very round podded pulpy bean, excellent as a string bean, but better known in the Middle States than in the North.

The past season has been remarkably favorable for the maturingof the large Lima, which with its fellow, the small Lima or Sieva, and known in some sections as Frost bean, is *the* bean for cooking; shelled in a green state. In ordinary seasons the Sieva can be successfully raised in warm locations as far North as latitude 43 or 44.

These and all beans that are somewhat tender in their habits take better to strings than to poles, and where poles are used let them be of as small diameter as can be consistent with the necessary strength. Of the early pole varieties among the most desirable, we have the London Horticultural, the Concord, one or two varieties of the pole Cranberry, and the Mottled Cranberry which surpasses the common sorts in productiveness.

The climate of England does not supply the intense heat necessary for the development of our beans, hence they are hardly known to English housewives. The beans of England differ remarkably from ours, are very much alike, differing mostly in size of the bean and the color of blossom. They make a tall, stiff, straight stalk with few or no laterals.

While our beans are very sensitive to cold and crave the warmest locations, those of our English cousins will stand slight frosts with impunity and thrive in the coldest locations. For this reason they rarely do well in this country, and if they are planted it should be as soon as the frost is out of the ground, and in a cool location. In England the bean is raised by the acre to feed to stock, whence comes the name "Horse bean" for one of the varieties, and when fully grown with their thick skin and rank flavor they are no delicacy, but I have eaten them gathered when young, before the large eye is at all prominent, when they were as delicate and rich as the finest Lima.

Our English cousins know nothing of that delicious delicacy which is found on every table when corn is in the milk. One of their number who chanced to be travelling in this country during the season of green corn, returned to his countrymen in raptures over the new found dish, and planning a surprise for his epicurean friends, he ordered sundry dozen of green ears from America by steamer. On their arrival they were set before his friends at a great banquet as the dish of the occasion. His extravagant praise had raised a fever of expectation, and how it was satisfied in corn in the milk that had been picked a fortnight before it was cooked and meanwhile enjoyed an ocean voyage, any Yankee can guess. It is said that as wry faces went the rounds of the table with the first bite, the host declared on his honor that green corn cooked in America tasted vastly different from what it was when cooked in England. Some of our city friends know of green corn as a luxury only as a reminiscence of their childhood.

Of the early varieties of sweet corn the Extra Early Dwarf is as early as any known to me. The ears are small, which is true of most of the earliest vegetables of their kind. The stalks are also small, so that the drills can be planted from two to two and a half feet apart. The Earl Narragansett is within a few days as early, and has the merit of making larger ears, while the kernels are remarkably large. The Forty days corn is a white flint variety, but earlier than any of the

sweet sorts, while it is tender and sweet the few days it remains in the milk. Its extreme earliness gives it value as a field corn in Northern latitudes. The small early varieties of field corn are not sufficiently appreciated. If their habits of growth are fully studied so that the proper distance apart and between the drills is learned, it will be found that most of them will give as great a crop by the acre as the most prolific large sorts, while the great merit of earliness is all on their side. I have known one of these small varieties yield one hundred bushels of shelled corn to the acre; yet if planted at the same distance as the ordinary sorts, probably the yield would have been little over half that quantity. In a country having so great a variety of soil and climate as ours, the early small sorts of field corn are not fully appreciated. In seasons when the cold, wet Springs bring planting into June, they are safe, and in seasons or sections where frosts close vegetable growth by the middle of September, they are safe from harm.

The drill system is the system for high cultivation and large crops, not only with corn, but with potatoes. By no other mode of cultivation can each stalk have its equal proportion of the soil. There are two difficulties in the way of carrying out the drill system; I am unable to find in any of the agricultural stores of Boston any machine that will drop corn in the drill; the small seed drills worked by hand are of no value except on ground exceptionally light and well pulverized. On ground to any degree heavy too much strength is required to get the requisite depth, and when this is attained, the earth being somewhat coarse, is pushed forward by the covering apparatus. Another practical difficulty is that of having the stalks thinned out to the right distance. In one sense this could easily be done, but I find that in actual practice it is apt to be delayed so late that injury is done to the crop, and at times overlooked altogether.

Some years ago I cultivated a variety of corn procured from the Sioux Indians, that surpassed all other kinds in earliness. It was of the starch class, the ears were very small and thick;

it must have been grown in a high Northern latitude, probably at the extreme limit of the corn crop. When our most Northern sections are tilled, this variety will have a commercial value. Of the varieties of sweet corn following the extreme early sorts, Crosby's Early, originated by that sterling market gardener, Josiah Crosby, of Arlington, gives good satisfaction. It is from 10 to 14 rowed, the ears of good size and filled out on the end with remarkable uniformity; in quality it is sweet and tender. Crosby's corn has largely replaced that old standard eight-rowed sort, Darling's Early, which always had the demerit of not being reliable for filling out on the end. Of the later varieties Stowell's Evergreen is the most extensively cultivated; this has some excellent characteristics; the ears are of a very large size, very well filled out, and the kernels are of the horse-tooth shape, giving them great length; in quality it is very sweet, while it remains a long while in the milk. The color of this variety when gathered just past the milk and dried for seed purposes, is of a remarkably rich tint. The Marblehead Mammoth Sweet is an improvement in size on Burr's Sweet, being in this respect at the head of the Sweet Corn group. It is late in maturing and of excellent quality. I have had single ears green in the husk that weighed three pounds. As this variety grows very stout, and succeeds remarkably, it is of great value for green fodder. Olcott's and Trimble's Sweet corn with me are rather poor croppers, and the ears are of small size; the quality of seed of these is very good, but I cannot rank them with Mexican Sweet which I have raised for a dozen years or more, and prefer to all others in sweetness and tenderness. The Mexican is medium early, ears of medium size, growing quite near the ground, usually two on a stalk. The color is dark purple when dried, but nearly white when in the milk.

Our Southern friends, and many in the West, prefer the field varieties when in the milk, to our sweet corn, and I have reason to believe that their field corn when in the milk is somewhat sweeter than ours while in the same condition. There

are several varieties of what are called Joint-corn, being introduced, kinds made by crossing standard sorts on the Egyptian, in which several ears grow on each stalk. As far as I have tried and examined them they hold out some promise, but the ears are of rather a smaller size than the same kinds growing naturally.

For the Committee—James J. H. Gregory.

COUNTERPANES, &c.

The Committee on Counterpanes, Carpetings and Rugs, have attended to the duties assigned them, and respectfully submit the following report:

There were no Carpetings offered. For Counterpanes and Rugs the following premiums and gratuities were awarded:

Mrs. Wm. Babson, Gloucester, 2 Silk Quilts, 1st pr.	$4.00
Mrs. Lucy Smith, Ipswich, 2 Silk Quilts, 2d prem.	2.00
Mrs. Martha Kimball, Salem, Quilt, gratuity,	1.50
Mrs. Lucy Munroe, Newburyport, Quilt, gratuity,	.50
Mrs. S. H. Potter, Ipswich, Quilt, gratuity,	.75
Mrs. S. E. Robinson, Topsfield, Quilt, gratuity,	1.50
Mrs. C. L. Webber, Ipswich, Quilt, gratuity,	1.50
Mrs. Laura Watts, Ipswich, Quilt, gratuity,	.50
Miss Bessie Palmer, Salem, 8 yrs. old, Quilt, gratuity,	.50
Miss Caroline L. Cogswell, Essex, Quilt, gratuity,	1.00
Miss Susie E. Tozer, Ipswich, Quilt, gratuity,	.75
Miss Nancy S. Russell, Ipswich, Quilt, gratuity,	.50
Mrs. Sarah A. Wheeler, Rockport, Rug, 1st prem.,	3.00
Mrs. Nathan F. Hanson, N. Beverly, Rug, 2d pr.,	2.00
Mrs. Enoch Plumer, Newbury, Rug, gratuity,	1.00
Mrs. R. S. Weymouth, Ipswich, Rug, gratuity,	.75
Mrs. Thos. E. Gould, Ipswich, Rug, gratuity,	.50
Mrs. Nancy S. Russell, Ipswich, Rug, gratuity,	.75
Mrs. Amos. F. Hobbs, Wenham, Rug, gratuity,	1.50

Mrs. Mary A. Kimball, Rockport, 5 Rugs, gratuity, 1.00
Mrs. Mary Peatfield, Ipswich, 1 Rug, gratuity, 1.00
Mrs. C. J. Buxton, Salem, 3 Rugs, gratuity, 1.00
Mrs. Mary J. Hardy, Salem, 2 Rugs, gratuity, .50
Mrs. Carrie W. Lake, Topsfield, 2 Rugs, gratuity, 1.00
Mrs. B. F. Wheeler, Rockport, Rug, gratuity, 1.00
Mrs. Edwin L. Shattuck, Ipswich, Rug, gratuity, 1.00

Mrs. Nellie Walker, Salem; Abbie King, Ipswich; E. Smith, Manchester; Susan M. Trow, Ipswich; Mary N. Withington, Newburyport, Rugs, a gratuity of 50 cents each.

Committee—Charles G. Savary, B. P. Adams, Zenas Cushing, Charles N. Ballou.

ARTICLES MANUFACTURED FROM LEATHER.

The Committee award to Safford, Noyes & Co. of Georgetown, for Kip Boots, a gratuity of $3.

To Noyes, Carleton & Co. of Georgetown, for Miner's Boots, a gratuity of $3.

To B. B. Prescott of Haverhill, for Spanish Bridle, a gratuity of $1.

Committee—A. A. White, E. W. Jacobs.

MANUFACTURES AND GENERAL MERCHANDISE.

The Committee on Manufactures and General Merchandise respectfully report, that according to the rules of the Society, no articles entered are entitled to its premiums, but they award gratuities as follows, viz.:

Ipswich Woolen Mills, Socks, Gloves and Yarn, $3.

John W. Bailey, Ipswich, Blackball, $2.

William Mayhew, Peabody, Fruit and Vegetable Slicer, $2.

Nath'l Morse, Newburyport, Stair Posts & Balusters, 1.50.

Mark Newman, Andover, Croquet Set, $1.

Geo. A. Keene, Newburyport, Carriage Tread for Step, $1.

M. C. Goodhue, Ipswich, Horse Shoes, 50 cents.

M. Nolan, Ipswich, Horse Shoes, 50 cents.

Committee—Warren Ordway, H. G. Herrick, S. W. Hopkinson, Samuel Hunt.

ADDITIONAL REPORT ON MANUFACTURES AND GENERAL MERCHANDISE.

In addition to the report made on the day of the Exhibition, I would say:

The premiums offered by the Society, under the head of "Manufactures and General Merchandise," were very limited, as follows—for Hats, Bonnets, and Combs—and as neither of these articles were exhibited, there were no premiums to award, and many of the articles named upon the books of this department, were not entitled to any gratuity, as they were manufactured out of the County, and were put in simply for exhibition and advertisement.

I would suggest, that in future, domestic manufactures should be divided, and premiums offered in reference somewhat to the locality where the Exhibition is to be holden. If in Lawrence, offer premiums for those articles which are specialties of manufactures there and in that immediate vicinity, such as shawls, blankets, flannels, braids, prints, paper, etc. If in Haverhill or Lynn, on articles such as shoes, leather, lasts, etc., and would appoint Committees particularly qualified to judge of these articles.

I would still keep the division of "Counterpanes, Carpeting and Rugs," also "Fancy Articles," and would include in the last all articles made exclusively by ladies (except those coming under the head of Counterpanes, Carpeting and Rugs), such as bonnets, laces, etc., and would appoint a majority of the committees ladies. Then under the head of "General Manufactures," I would place all articles not specialties of

manufacture in the vicinity of the place of exhibition. And all articles not entitled to any premiums or gratuities, I would place under the head of "General Merchandise," and appoint a Committee whose duty it should be to examine them and report upon their merits.

For the Committee—S. W. Hopkinson.

FANCY WORK.

One hundred and seven articles, mostly showing great taste and skill in the use of the needle, were examined by the Committee, of which the undersigned is chairman. As will be seen from the following awards there were exhibited, besides needlework and kindred products, some ingenious fabrics of wood and some works of art.

In the absence of evidence to the contrary, the Committee assumed that all these were produced within the county of Essex during the last year, and the following awards are conditioned upon the correctness of this assumption.

No articles were entered as the work of children under twelve years of age. Hence no premiums are awarded. Fifty dollars were given us to award in gratuities, not exceeding $3 in any one gratuity for articles of special merit. The six members of the Committee who were present have awarded these as follows:

Fancy Work—Mrs. L. R. F. Hammett, Ipswich, $2; Afghan—Mrs. E. W. Boynton, Georgetown, $3; Oil Paintings—Mrs. E. G. Berry, Danvers, $3; Fairy Cart—Augustine H. Spiller, Ipswich, $2; Worsted Work — L. L. S. Brown, do, $2; Pictures—Mrs. John Lord, do, $2; Rustic Flower Stands—Wm. Osborn, Lynn, $1; Pressed Sea Mosses—Mrs. P. Greenwood, Ipswich, $1; Lace Bobbin—Mrs. Sally Low, do, $1; Tidy Tatting—Agnes A. Lowell, Salisbury, $1; Embroidery—Abby C. Giddings, Ipswich, $1; Bead Work—Lucy S. Lord, do, $1; Shirt—Lucy Munroe,

(aged 83), Newburyport, $1; Lace Work—Susan H. Spiller, Ipswich, $1; Pressed Geraniums—Miss S. I. Fellows, do, $1; Afghan—Mrs. Ellen M. Burnham, do, $1; Thread Edging—Mrs. Eben Stanwood, do, $1; Sofa Pillow—Rose O'Connor, do, $1; Wax Work—E. P. Brown, do, $1; Gold Wrought Slippers—M. K. Henderson, do, $1; Lace Pillow—Mrs. Wm. Hurd, do, $1; Tidy and Cushion—Annie Russell, do, $1; Worsted Work—Alice C. Merrill, Newburyport, $1; Wax Wreath—A. C. Knowlton, Essex, $1; Doll's Quilt—Miss Bessie Poland, Ipswich, $1; Shawl—Jane H. Baker, do, 50c; Tidy and Picture—L. Lakeman, do, 50c; Toilet Cushion—Mrs. N. E. Ladd, Groveland, 50c; Tidy—Laura Woodbury, Hamilton, 50c; Wax Fruit — Miss Alice S. George, Groveland, 50c; Children's Silk Wristers—William Johnson, Ipswich, 50c; Lace and Worsted Work—Miss E. F. Blood, do, 50c; View on the Hudson—Emily G. Patch, do, 50c; Tidy—Mrs. J. W. C. Downes, do, 50c; Wax Cross—Miss L. A. Tyler, do, 50c; Pin Holder—Mrs. Rev. D. T. Kimball, do, 50c; Worsted Screen—Miss M. I. Mann, do, 50c; Wax Leaves—Mrs. H. B. Farley, do, 50c; Teel Feathers, arranged—Miss Pauline T. Greenwood, do, 50c; Carriage Blanket—Susan Payson, Rowley, 50c; Tidies—Kate Carlton, do, 50c; Stockings—Mary Morrill, (aged 93), Amesbury, 50c; Water Lillies, &c., in Wax—H. N. Bancroft, Ipswich, 50c; Tidies—Mary E. Millett, do, 50c; Afghan—Miss Augusta Hodgkins, do, 50c; Bead Work—C. C. Bancroft, do, 50c; Wax Flowers—Miss Pauline T. Greenwood, do, 50c; Tidy—Mary A. Lord, do, 50c; Flowers in Hair Work—S. E. Robinson, Topsfield, 50c; Tidy—Lucretia S. Lord, Ipswich, 50c.

The Committee also mention a Meat Chopper, from the Athol Machine Co., and a set of Wooden Toys, without paint, as worthy of honorable notice.

For the Committee—Robert S. Rantoul.

GRAIN CROPS.

The Committee on Grain Crops have attended to the duties assigned them, and report:

They have but two entries this season, one from Messrs. J. C. & Romulus Jaques of West Newbury, and one from Mr. Thomas Low of Ipswich.

The Committee examined Messrs. Jaques' corn Sept. 17th, and found it an extra crop and well cultivated. It was on a flat, moist piece of land, favorable for the dry season.

Mr. Thomas Low's corn was examined Sept. 28th, and in the estimation of the Committee it was a very promising crop, and thought it compared very favorably with Messrs. Jaques.

Mr. Low's statement says that he had 122 bushels of shelled corn to the acre. He shelled one half bushel that weighed 33 pounds; he then allows 56 pounds to the bushel, which makes 122 bushels per acre. As he gave us no account of the labor, and did not conform to the rules of the Society in weighing and measuring the corn, he could not be awarded the premium.

The Committee award the diploma and $10 premium to Messrs. J. C. & Romulus Jaques of West Newbury.

Committee—C. K. Ordway, Abel Stickney, Joseph Horton, D. G. Todd.

STATEMENT OF J. C. & R. JAQUES.

The crop of Indian Corn which we have entered for premium grew upon one acre of land. The soil is a light loam and was ploughed for this crop the first time for seven years. It was ploughed in the fall, and again in the spring, about eight inches in depth. Nine cords of manure were used, five of which were plowed in and four harrowed in; the land was marked off in rows, three and one half feet each way, and planted on the tenth day of May; cultivated with a common cultivator each way twice and hoed twice. The top stalks were cut August 27th, and on Sept. 27th we commenced to

cut up and harvest, finishing the 1st of Oct. The amount of corn raised was one hundred bushels, eighty pounds to the bushel and eight pounds over; top stalks, two tons; butt stalks, five tons.

It should be remarked that upon eight rows, one hundred hills in length, fifty pounds of Bradley's Superphosphate were used in the hill; the same number of rows and hills were left without any special manure, and ashes were used upon six rows, one hundred hills in length. The crop upon the eight rows where the superphosphate was used yielded one hundred and eighty pounds more than the eight rows where no special manure was used. Upon the six rows where wood ashes was used, the yield was one hundred pounds more than upon the same number of hills where no extra manure was used. One half pint of ashes was used in the hill. The land upon which this experiment was made was selected with special care, that it should be as nearly alike in character and situation as possible.

The corn was quite dry, so that it shelled from the cob in harvesting and husking. One bushel of 80 pounds was shelled and ground the 17th of October; the shelled corn weighed 64 lbs.; and the miller who ground it—a man of mature judgment—was of the opinion that it would not shrink more than two pounds, so that the value of the crop is actually more than given in the account.

EXPENSE OF CROP.

Cost of plowing,	$9 00
Value of manure on the ground,	80 00
Cost of seed and planting,	3 50
Cost of cultivation,	8 00
Cost of harvesting and storing,	12 00
Cost of superphosphate and ashes,	2 66
	$115 16

VALUE OF CROP.

100 bushels of corn,	$110 00
2 tons top stalks,	30 00
5 tons butt stalks,	30 00
Manure in land for future crops,	41 33
	$211 33
Deduct expense,	115 16
Net income,	$96 17

From actual measurement I hereby certify that the above crop covered one acre of land and no more.

MICHAEL W. BARTLETT, Surveyor.

UNDER-DRAINING LAND.

The undersigned, members of the Committee on Under-Draining, make the following report:

One lot of under-drained land was entered by D. F. Appleton, of Ipswich, for premium. Due notice of the time appointed for an examination of the premises was given, but only the chairman and one other member of the Committee were present, and consequently we found ourselves in rather an embarrassing situation, but we thought we would go on and make such a report as we might be able.

It has been said that he who makes two blades of grass grow where but one grew before should be considered a public benefactor. Perhaps this assertion should be received with some degree of qualification. Such an one may be so considsidered if he did it at an outlay that will make it a paying operation. If it is not such an example as would be safe for the

ordinary farmer to follow with a limited income derived from his farm alone, then we think it would partake too much of the character of much of the gilt-edged farming which we sometimes see—beautiful to look upon, with the nice faced walls, the fancy breeds of cows, horses, pigs, and poultry, the nicely shaven lawns, etc. We once heard of one who upon inviting his friends to take some refreshments, set on the sideboard some high cost brandy, and milk of Jersey cows, and invited them to help themselves to that which they liked, as the cost in both cases was the same. But Mr. Appleton's case stands on no such foundation. Here is really an example worthy of imitation by the men of small means, to say nothing of the improvement in the appearance of his place, lying as the under-drained land did in front of his residence.

The foundation of all the improvement in this, as well as of another larger tract of meadow upon which Mr. Appleton has commenced operations, is a large open ditch passing near this lot and into which the main drain has its outlet, and emptying into Ipswich River, some half mile distant. But as this ditch existed before, we did not think it worth while to make any account of its expense in the drainage of the lot.

We think Mr. Appleton is singularly fortunate in having for his farmer a practical engineer, who not only laid out the work and made the plan of the lot, but also adjusted all the tile in the drains. This lot was not a muck bed, but a basin kept wet by springs, which had their origin at some low level, as no less than eight were cut through in making the drain. The lot, as will be seen by the plan presented, is a long and narrow one, being 1815 feet in length, and requiring the main drain to be 2000 feet in length to get an outlet.

The lot contains thirteen acres, one rood and eleven rods. About one acre is taken up by a road way, leaving twelve acres to be operated upon. The soil was a sandy loam on one side, a pretty hard gravel on the other, with some slight elevations marked "Hills" in the plan, with some decomposing

granite cropping out, and a kind of plastic clay in the middle. There were no trees or bushes of any consequence on it, and it was wholly worthless for cultivation.

Operations were commenced in this lot on the 14th of April, 1869, and finished in August of the same year, and it was sufficiently drained to commence planting on the 8th of May, of the present year. The drains being all dug to the right grade, the descent being uniform, any places that might be too soft for the tile to remain in place were filled with gravel before the work of laying the tile began. The main drain was commenced with 1 1-2 inch tile—the lot being narrow where it was begun—and larger ones were introduced as the work progressed, and it was finished with six inch tile. The fall to the main is on an average five and thirteen one hundredth inches to the hundred feet, the greatest being thirteen, and the least three and forty-five one hundredths to a hundred feet, which is thought to be as small a fall as is prudent to lay a drain. The minor drains were laid with 1 1-4, 1 1-2 and 2 inch pipe, as the nature of the work seemed to require. The main drains were laid some four inches lower than the minor ones, so as to have a slight fall to the water as it entered it, and care was also taken that none of the minors should enter the main drain opposite each other. The drains were generally placed thirty-three feet apart, sometimes a little more, and sometimes a little less, as there was more or less water to be taken away. The tile used were the round stone, in sections of about two feet in length, the ends when laid being butted together, and a collar of the same, in the form of a ring, placed around every joint. This form of tile the engineer claims is superior to the sole tile, as the water enters it by filtration. We are not prepared to express an opinion as to the superiority of one over the other.

The value of under-draining depends in a great measure upon the way in which the work is done, because if there should be a slight defect in the work it may spoil the whole operation.

In the case under consideration, the end of every section was placed in exact juxtaposition to its fellow; any one not making a good fit, the ends were cut away with a cold chisel. After the tiles were placed, the collar was put over the joint; a sod from the surface was inverted over it, and then the surface soil was carefully packed around and over the tile to the depth of some six inches, and then the ditch was filled with whatever came handy, extreme care being taken not to displace the tile; but we should think, in order to insure the permanency of the work, some leather shavings should have been placed over the tile, after the surface soil had been placed on them to prevent the silt from working through, though it is claimed *that* is not necessary, as the surface soil will answer all purposes.

So much for the work and the way it was done—now for the expense:

By data exhibited to us we find that the cost of tile was	$476 12
Cost of labor,	834 00
Making the whole expense,	$1310 12

The cost of cultivation of the crop is set down by the farmer as follows: Plowing: part done with one yoke of oxen and a horse, and part with two yoke of oxen, 140 00

Harrowing,	24 00
Planting the various crops,	120 00
Hoeing,	80 00
Value of manure, 84 cords,	420 00
Add cost of drainage,	1,310 12
Balance against the lot,	$2,094 12

Your Committee very much regret that this report could not have been deferred till the crops were harvested, so as to have had the exact amount of the different crops instead of estimates; but as it could not, we were obliged to content our-

selves with what we could get, as we do not understand the Society to require it; or a written statement from the claimant. The crops were as follows:

Nine acres of Corn, 50 bushels to the acre, (this we think a reasonable estimate,) at one dollar a bushel,	$450 00
One and one quarter acres of Rutabaga, eleven hundred bush., (which we think is large both in price and quantity,)	550 00
Four hundred bush. merchantable Potatoes, meas'd,	400 00
Three thousand Cabbages, at six cents a-piece,	180 00
	$1,580 00

The corn fodder and one hundred bush. of small potatoes are supposed to cover the cost of harvesting.

The manure used was a compost of meadow muck and barn-yard manure—two parts of the former to one of the latter.

The corn was planted four feet apart each way, on account of the sod in some part of the land being so tough that it was difficult to obtain soil enough to work the crop.

We arrive at the following results: Cost of drainage, cultivation and manure; nothing being allowed for the seed used, $2,094 12

Estimated value of crops, 1,580 00

Balance against the lot this year, $514 12

We think that the increased value of the land should be considered a fair offset for this amount.

Should the Society publish the plan here presented, it will give a much better idea of the whole operation than we can give in this imperfect report.

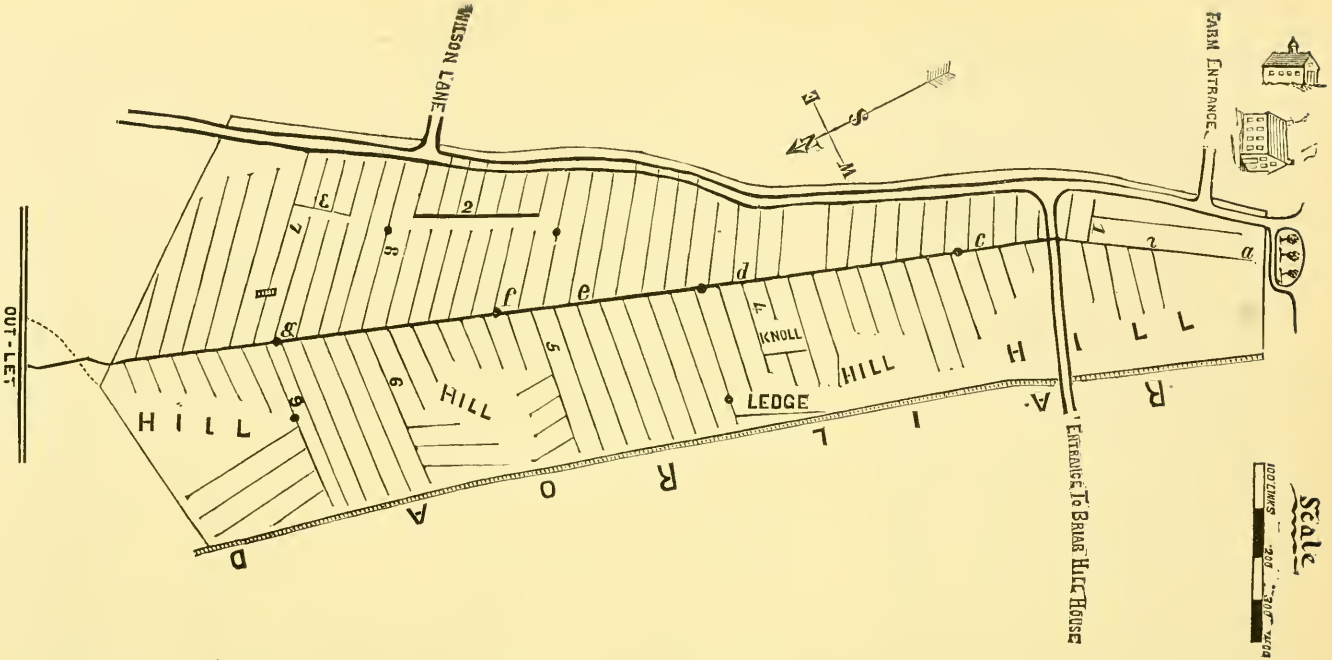
In view then of all the facts, if Mr. Appleton has come up to the rules of the Society, we should recommend that he be awarded the first premium, or, as has been suggested, the case

might remain open for another year. The chairman hopes that his ill health will be a sufficient excuse to all parties interested for the very imperfect manner in which he has performed his duty in the making of this report.

The first premium of diploma and $15 was awarded Mr. Appleton.

Committee—J. L. Hubbard, Calvin Rogers.

Note.—We should have stated that in addition to the manure used as above stated, some guano, super-phosphate, and gypsum were used, but the amount has escaped our memory.



Main drain from a to b 1½ inch tile. Fall 13 inches to an 100 feet.
" " from b to c 2 inch tile. Fall 8.45 inches to an " "
" " from c to d 2½ inch tile. Fall 3.60 inches to an " "
" " from d to e 3 inch tile. Fall 7.30 inches to an " "
" " from e to f 4 inch tile. Fall 5 17 inches to an " "
" " from f to g 5 inch tile. Fall 3 45 inches to an " "

Main drain from g to outlet 6 inch tile. Fall 3.75 inches to an 100 feet.
Minor drains, Nos. 1, 2, 3, 4, 5, 6 & 7 are laid with 1½ inch tile. Nos 8 & 9 2 in. tile.
" " The remainder are all laid with 1½ inch tile.
" " Average fall 5 13 inches to an 100 feet,
Springs are marked, thus •
Ice, on No, 7, minor drain, marked, thus ||, is a watering place,

ROOT CROPS.

The Committee on Root Crops would report:

The number of entries has been encouraging, and indicate an increasing interest in the cultivation of every variety of roots, as valuable and important to the farmer. In one instance the entry was made so late as to render it impossible to examine the crop; and many of the statements were made to the Committee in a very imperfect manner. The papers which have been laid before them are herewith submitted, and the premiums are awarded on such crops as have been regularly and seasonably brought to their attention. They would urge upon those making the entries, in future, more promptness and accuracy.

STATEMENTS OF WILLIAM R. PUTNAM.

Statement of a crop of Cabbage raised by William R. Putnam, of Danvers, 1870:

The land had been pastured for several years previous to 1869; it was ploughed in June, of 1869, and part planted with corn, for fodder, and part sown with *ruta baga* turnips; manured with a compost of muck and bones.

In May, 1870, the land was ploughed and harrowed: the 7th of June, part of the piece was marked out in rows, 3 1-2 feet apart; manured with a compost of barn-cellar manure mixed with muck—1 1-2 cords of clear manure mixed with 2 1-2 cords of muck. The four cords were put on the upper half-acre; this was put in the drills and covered with the plough; the ridges were leveled and the seed dropped about 2 1-2 feet apart; the upper nine rows were planted with the Savoys, using the *American improved* seed, from J. J. H. Gregory; seven rows with the Mason Drumhead.

I notice that the rules of the Society require the "value of the manure upon the ground." I estimate my clear manure at $15 per cord. My barn-cellar bottom is tight, so that all the

urine is in the manure. The muck I estimate at $4 per cord, after it is dried, making $22.50
Muck, 10.00

$32.50
Ploughing and harrowing, 2.00
Carting on the manure, 3.00
Seed, 2 ounces, 75 cts. each, 1.50
Planting, 4.00
Cultivating and hoeing three times, 8.00

$51.00

There were one thousand six hundred cabbages upon the half-acre, fifteen hundred marketable ones, the Savoys averaging six lbs. per head and the others nine lbs. each. They have been sold at the average price of 13 cents each. $195.00
Cost, 51.00

Profit, $144.00

I estimate the leaves worth, for feeding milch cows, enough to pay for harvesting and marketing.

It was remarked by one of the Committee, when viewing the cabbage, that if I had planted nearer, I should probably have got a larger crop. My aim is to get the largest return for my manure and labor, and prepare the land for a hay crop: and I think when my crops are planted a large distance apart and well cultivated, that they are not so much injured by the dry weather. If I was nearer the cities, where land is more valuable, it might be an object to try and get the largest return per acre.

The other half-acre was cultivated the same as the above, except the manure, which was half ton of Vassor bone, mixed with two cords of muck; cost, 3 cts. per lb.—1000 lbs. at 3 cents, $30.00
Muck 8.00

$38.00

Part of this piece was set with plants, started in the hot-bed.

In the early part of the season this part of the field made the most vigorous growth, but was more injured by the dry weather in September. As they were earlier, my sales from this part were more than from the other.

The whole field is naturally a cold, wet, strong, rocky soil: it has been underdrained.

Statement of a crop of *ruta baga* Turnips, raised by Wm. R. Putnam, of Danvers:

The land had been in grass for five years; was mowed the last of June and ploughed the first of July; was sown the 13th of July, in rows 3 1-2 feet apart; the manure was put in drills and covered with a horse-hoe.

The manure was made in the barn-cellar, by carting in two cords of muck; and this was saturated with urine from the cows, mixed with the manure, making 3 cords; estimated value, $23.00

Cost of ploughing and harrowing,	3.00
Half pound of seed,	75
Carting on manure,	4.00
Sowing, thinning and cultivating,	10.00
Harvesting,	7.00
	$47.75

Yield 168 bushels, 60 lbs. per bushel, making 65 barrels suitable for market, which sell for $2 per bbl. in market, or $1.50 at the barn—$97.50.

STATEMENT OF THOMAS SANDERS.

Statement concerning a crop of Ruta Bagas raised on a half acre by Thomas Sanders, in the town of Hamilton, 1870:

The crop of 1868 and 1869 was grass. No manure used. Soil light and gravelly. Ploughed once in November, 1869, two inches deep; this spring, cross-ploughed four inches: again ploughed, (same as at first) eight inches deep.

Cost of three ploughings,	$3.50
Cost of harrowing and removing witch-grass, with which the field abounded,	2.00
Applied in drills, six loads of manure, one-third barn-yard manure and two-thirds muck,	7.00
One-half pound of seed, cost,	45
Sowing with seed-sower, cost,	75
Cultivated once, cost,	40
Cost of weeding twice, three days' work, a $2 per day,	6.00
Cost of carting into cellar,	3.50
Cost of topping,	2.00
Total cost of cultivating and harvesting crop on one half acre,	$25.60

Amount of crop 393 1-3 bushels, at 60 lbs. per bushel.

HAMILTON, Oct. 28th, 1870.

This is to certify that I measured off half an acre of land on the field of turnips which Mr. Thomas Sanders has entered for premium. WM. A. BROWNE, Surveyor.

To the Committee on Root Crops.

STATEMENT OF JOSEPH ILSLEY.

Statement concerning a crop of Onions raised by Joseph Ilsley, in the town of Newbury:

The crop of 1868 was part corn and part beans, manured with five cords of barn-yard manure per acre. Crop of 1869 onions, manured with six cords of barn-yard manure per acre. Soil dark sandy loam. Plowed in the fall seven inches deep; harrowed twice, brushed and raked, and sowed with seed-sower about the 25th of April with Danvers yellow onion seed, at the rate of five pounds per acre. The ground was hoed eight times and wed four times. The onions on the half acre entered for premium were pulled on the 23d of September and the ground hoed and raked by two men in one day; the topping required six days' labor; the manure was plowed in at

the time of plowing in the fall; I also spread on about eight or ten bushels of ashes (on a part of the ground) just before the seed was sown, but could see no difference in the crop on that account.

Previous to 1866 this piece of land was too wet for profitable cultivation. In the fall of that year I underdrained it with tiles, and it has since well repaid the cost.

Value of manure on half acre, estimated,	$30.00
Cost of plowing, &c.,	6.00
Cost of seed and planting,	11.00
Cost of cultivation,	23.00
Cost of harvesting,	20,00
	$90.00

The crop on the half-acre measured eight cart loads and 11 measured bushels, one load of which weighed (by J. A. Lunt, at his scales, in Newbury,) 2373 lbs., making the whole amount to 376 bushels, or at the rate of 752 bushels per acre.

I witnessed the measurement of J. Ilsley's onions; there were eight carts full of equal size and eleven measured bushels.

GEORGE P. GOODWIN.

In September, 1870, I measured for J. Ilsley half acre of onion ground, the crop to be entered for premium.

PAUL M. ILSLEY.

STATEMENT OF FRANCIS LITTLE.

Statement concerning a crop of Carrots raised by Mr. Francis Little, in the town of Newbury, in 1870:

The ground on which this crop was raised was planted the two previous years with Indian corn, yielding not over forty bushels shelled corn to the acre. Applied about thirty loads common barn-yard manure. The soil is a coarse, dark, sandy loam, with sandy sub-soil. It was plowed about the 20th of May ten inches deep, after having spread on about fifteen loads manure. Harrowed with brush harrow and smoothed off with hand rake.

Cost of plowing and preparing, $5.00
Value of manure, 30.00

The ground was sowed about the 26th of May with long orange carrot, in rows sixteen inches apart.

Cost of seed, half pound, .50
Sowing, $1.00

It was hoed three times with a wheel hoe; after each hoeing it was weeded out by hand.

Cost of cultivating, including weeding and thinning, $16.00
Finished harvesting Nov. 8; cost of harvesting, 12.00

In ascertaining the weight of crop, the first load was drawn to the hay-scales and weighed; the rest were filled in the same way without weighing.

Amount of crop on the eighty rods, twelve tons, four hundred and twenty lbs. On ten rods of the piece I dug two tons.

This is to certify that I was in the employ of Francis Little and did witness the aforesaid crop of carrots harvested. I declare the above statement to be a true one.

THOMAS NOYES.

The ground on which the above-mentioned crop was raised was measured by me and contained half an acre and no more.

JOSEPH ILSLEY.

The Committee award the following premiums:

To William R. Putnam, Danvers, Cabbages, first premium, diploma and $8; to Joseph Ilsley, Newbury, Onions, first premium, diploma and $8; to Thomas Sanders, Hamilton, Ruta Bagas, first premium, diploma and $8.

Committee—Geo. B. Loring, J. D. W. French, Jacob L. Farnham, F. P. Putnam, E. H. Little, Albert Rogers, J. B. Foster.

CANKER WORM.

The Committee on the Destruction of the Canker Worm, respectfully report, that there has been but one entry for the Society's premium of $100 offered for a new, cheap, and effectual protection against the ravages of that destroyer of the orchardist's hopes. It is presumed that the Society expects a better, cheaper, and more effectual method of protection, than is now known, in order to entitle the claimant to the award.

That now offered by Mr. A. P. Noyes, of Middleton, is an arrangement of prepared hair cloth, invented by Mr. Charles P. Johnson.

Mr. Noyes applied this invention to some trees of one of the Committee, at an average cost of fifty cents per tree, in order to test its value as a protection against the grub of the canker worm. By putting a strip of tarred paper, with printers' ink upon it, above the hair cloth, it has been found that they passed through or over it and were caught by the ink, thereby proving the worthlessnsss of that invention.

The canker worm, that has been so destructive to the apple orchards in New England, has been closely observed, and its habits have been studied by your Committee, and others, in order to protect themselves from its ravages. It has been noticed, that the grub commences breaking forth from its chrysalis form, after the first freeze, usually about the first of November. The females, which are wingless, proceed directly from the ground to the trunk of the tree, and commence their ascent. They continue coming from the ground, as the frost will permit, until April; generally in greater numbers in the Spring than in the Autumn. The males, which have wings, are more tardy in making their appearance; and the proportion of males (never so numerous as the females), is much greater in the Spring. The female, having broken ground, ascends the tree more or less rapidly, according as the weather is mild: being benumbed [and [motionless in cold nights and days, but ready for a fresh start upward in a warm day. The males are

more active in the darkest night even, than in the sunniest and warmest days, to flutter about the trunks and branches of the trees in search of the females, that are ready for pairing, having accomplished which, they pass on in search of others. The female very soon after impregnation deposits her eggs upon the branches of the tree in clusters of from twenty to a hundred or more, and then having obeyed the universal law of nature (equally applicable to animal and vegetable life) of providing for its reproduction, immediately dies. The eggs hatch just as the buds open, and the tender leaves put forth; and the minute worms, scarcely visible, proceed at once to feed upon them, making but little show on the foliage until about the first of June, when having attained half their growth, they become very voracious until from the 15th to the 21st of June. Having attained their full size and stripped our apple and elm trees of every green leaf, they descend either by their webs or the trunks of the trees, and bury themselves in the ground from two to four inches deep, where they become transformed into chrysalids, there to remain until the coming frosts of November shall break their prison doors, when they appear in a new form as described above.

The object of the Society in offering the liberal premium of one hundred dollars, was doubtless to develop the most effectual, the most economical and simple protector to our orchards. From time to time many cumbersome and costly appliances (some patented and others not) have been offered to the public as certain remedies; and large sums of money have been expended in their purchase, ending only in the disappointment and disgust of their purchasers. It is believed by your Committee, that no plan of protection that has been devised, is so good as that practised more than half a century ago, of tarring the trees: the great difficulty attending which was the necessity of applying it so often.

A great improvement has been found in substituting printers' ink, which does not dry so readily. The best method of applying the ink, is to take a strip of tarred paper six or eight

inches wide, (a year old is best) and tack it around the body of the tree, after scraping off the roughest of the loose bark, and filling up any irregularities of the tree with cotton batting or tow. The paper should be put within one or two feet of the ground, to prevent cattle from rubbing off the ink and smearing themselves (as they will if they have the opportunity), and also to keep the female grubs as low down as possible; for they will often when finding the obstruction of the ink, back down, and after a time deposit their eggs below, even without impregnation. Instinct teaches the males to seek their mates higher up the tree in order to have the eggs deposited near where the young will find their food. The best quality of ink should be used, as it remains sticky longer than the cheaper preparations offered for that purpose, some of which are worthless.

The ink should be applied with a brush, near the top of the paper, so that it may not run down upon the bark of the tree, which causes injury to it by attracting an unnatural amount of heat from the sun. In some instances where the ink has been used without any paper, the tree has been killed. The paper should be removed from the tree after the season is over, as it it makes a harbor for various other kinds of insects during the summer months.

It is contended by many that the eggs deposited in the autumn never hatch, and therefore it is useless to apply the ink until spring; but it is known that many, if not all, such do hatch, and therefore, in order to have it effectual, it is necessary to commence in the fall and apply the ink as often as it dries upon the surface, varying according to the weather from three to ten days. It should also be applied just as the eggs hatch for the purpose of catching any worms that may have hatched below the paper, although it is doubtful if the young worms would live so long without food as it would take them to ascend as far as the branches.

It has been found that if from any neglect of using the ink there are worms upon the trees about the first of June, by a

sudden jar of the branches they will spin down, and immediately start for the trunk to ascend. A fresh application of the ink will then catch them.

Where an accurate account has been kept of the material used and labor performed, it has been found that the cost of protecting an orchard by this method is not over ten cents per tree, which is so small an expense that no one can make it an excuse for allowing his orchard to be destroyed, or even a single crop of apples.

Fall ploughing has been practiced as a protection against the canker worm by some of the Committee for several years with perfect success. Discovered accidentally by noticing that a part of an orchard, which was ploughed in the fall, entirely escaped the effects of the worm, while the portion of it not ploughed was eaten bare. All will admit the importance of ploughing and carefully cultivating an orchard, and if by doing it in the autumn the orchard will be protected from the canker worm, a double incentive is offered for this system of cultivation.

The Committee feel warranted from their own experience and observation in recommending as an effectual, cheap and simple protection against the canker worm, fall ploughing where practicable, and the use of tarred paper and printers' ink where ploughing is not admissible.

For the Committee—Benj. P. Ware.

TREADWELL FARM.

The Committee on the Treadwell Farm respectfully report that at a meeting called in April there were but two members present, who looked over the Farm, and were pleased with the general appearance of it.

The system pursued by the tenant, Mr. A. Gould, has been to plow up a portion each year, to manure heavily, plant and

carefully cultivate two years, and then to lay down to grass. In this manner he has gone over nearly the whole of the tillage land on the farm, which is now all in grass, and the generally well set sward showed a marked change from its appearance when Mr. Gould commenced improving the farm. Then a large portion of it, which is plain land, presented a barren appearance with no sward; then the farm yielded but five tons of English hay, and this year it has produced thirty-five tons, besides five acres of oats, of good quality.

It is believed by the Committee that Mr. Gould has more than complied with the condition of his lease in regard to the application of fifty cords of good manure per year to the farm; but he has not met the requirement of applying two hundred loads of meadow mud annually, on account of a division of opinion of the Committee as to the expediency of digging mud from a meadow where cranberries grew. A part of the Committee is disappointed in not having the experiment of the effects of meadow mud upon the plain land, (which constitutes a large portion of the arable land of the farm), fully tested; in view of that the members who were present, requested Mr. Gould to make a thorough trial of it, upon a portion of the plain land, that he has not yet plowed, which he agreed to do.

For the Committee—Benj. P. Ware.

ESSAYS AND REPORTS OF COMMITTEES.

The Committee on Essays and Reports of Committees report as follows:

There were presented for their consideration one Essay and three Reports, and they award the premiums as follows, viz:

To J. D. W. French of North Andover for Essay on the Oakes Cow, the third premium of $8.

To J. J. H. Gregory of Marblehead, for Report on Vegetables, the first premium of $10 and Diploma.

To Joseph How of Methuen, for Report on Agricultural Implements, the second premium of $8.

To J. L. Hubbard of Peabody, for Report on Underdraining, the third premium of $6.

It will thus appear that the Committee have been able to give everybody a premium, and that there are two left for which there are no competitors. This certainly does not indicate a very sharp competition among our farmers and others interested in agricultural subjects for the rewards offered by the Society. We are rather surprised at this, as there has never been more need of intelligent discussion by men of practical experience of the subjects that are connected with the business of farming. In many of our farming communities the question, whether under the present condition of exhausted soils and expensive labor, the business can be made a remunerative one, becomes more pressing with each year, so that it is very desirable to get all the light we can from practical men as to the best modes of conducting this important business.

The reports presented to us were all interesting and valuable. What varieties of the different vegetables are most desirable, and what are the best methods for their cultivation are inquiries of immediate concern, not only to the farmer but to every one having a garden; this subject is treated in a most interesting manner in the report of Mr. Gregory.

The Report of the Committee on Agricultural Implements deals with a matter of vital importance to the farmer. Had it not been for the great progress there has been made within a few years in the introduction of labor-saving implements it would have been impossible, without ruinous expense, to have completed much of the necessary farm work, particularly in securing the hay crop. This need and demand for machines, to supply the scarcity of manual labor, has very naturally

stimulated the manufacture and sale of many that were worthless, so that the Committee, who pass judgment on the comparative merits of these implements, have a most responsible and delicate duty to perform.

The report of Mr. Hubbard on Mr. Appleton's experiment in underdraining is instructive as far as it goes, but it would be of far more positive value in answering the question, which he rightly considers as the important one, that is, how such an experiment pays—if he had been able to give us a statement of actual profits instead of an estimate. This, however, could not be done this year; therefore it seems to us that a report on the success of an experiment in underdraining cannot properly be made until some time after the first year.

The Essay on the Oakes Cow gives us some interesting statistics, but it did not seem to the Committee to be of great practical value. The records of the achievements of cows of exceptional excellence would be exceedingly valuable if they would stimulate other cows to go and do likewise; but we fear that even the success of the Oakes Cow in gaining a posthumous fame, so much exceeding that of most of her human contemporaries, will have little effect on the production of milk. Such rare excellence we presume is accidental, and not the result of care in breeding, or in the management and treatment of the animals; and their history is curious rather than instructive.

DANL. E. SAFFORD,
For the Committee.

Dec., 1870.

THE OAKES COW.

BY J. D. W. FRENCH, OF NORTH ANDOVER.

In the fourth Report of the Agriculture of Massachusetts, by Henry Colman, published in 1841, may be found an account of this famous cow. This cow was owned in Danvers, and produced in 1813, 180 lbs. of butter; in 1814, 300 lbs.; in 1815, over 400 lbs.; in 1816, 484 1-4 lbs. During this time, one quart of milk was reserved for family use, and she suckled four calves for four weeks each, in the course of those years. She produced in one week 19 1-4 lbs. of butter, and an average of more than 16 lbs. a week for three months in succession. The largest amount of milk given in one day, was 44 1-2 lbs. She was allowed 30 to 35 bushels Indian meal per year, all her own skimmed milk, and most of her buttermilk. At one time the owner gave her potatoes, which increased the milk, but not the butter. In the autumn, he gave her about 6 bushels of carrots.

After reading this, we must admit that she was an extraordinary cow: but at the same time we must admit that she had extraordinary feed. Can it be possible that more than fifty years have gone by, and with all our boasted improvements we have nothing equal to her? I for one do not believe it possible.

In the Country Gentleman of Dec. 30, 1869, may be found an account of a cow, named Sybil, owned by Henry Saltonstall, of Peabody. This cow was 7-8ths Jersey and 1-8th Ayrshire; weighed 950 lbs. She calved April 7, 1868, and gave from that time until April 7, 1869, 13,065 lbs., or more than 6 1-2 tons of milk. In July, on poor and dry pasture alone, this milk made 12 1-2 lbs. butter a week, or 1 lb. for 12 quarts of milk. Her food was poor upland pasture, helped out for six weeks with green corn fodder, about a bushel of grain in all, between grass and roots, and in winter, dry hay and one peck of roots a day. She gave in the rest of—

April, 1869, 23 days, 23 lbs a day.
May, 1869, 31 " 19 1-2 lbs. a day.
June " 30 " 17 " "

Thus in 14 months of continuous milking, she gave 14,700 lbs., or about 7,000 quarts of milk. Average for the year, 35 3-4 lbs. per day. Her greatest yield was 60 lbs., or nearly 30 quarts a day. Sybil certainly surpasses the Oakes cow in her yield of milk. Which was the most profitable cow? I shall put Sybil's product in milk for the year, about 6,000 qts., against the Oakes cow's product in butter, 484 1-4 lbs., her greatest yield. The milk of Sybil at 5 cents per quart, would be worth $300; the butter of the Oakes cow, at 50 cents per lb., $242,12 1-2. Besides this, we must make allowance for the suckling of a calf four weeks, and the quart of milk used in the family. Even this allowance would not make her as profitable an animal as Sybil, who was kept at a far less cost. Allowing 12 quarts of milk for 1 lb, of butter, Sybil would have yielded 500 lbs of butter during the year.

In the fifteenth Annual Report of the Secretary of the Massachusetts Board of Agriculture, is a statement of J. C. Converse, of Arlington, in regard to his Jersey cow Lady Milton. She was kept in pasture in June and July, and in August and September received green fodder corn at night in addition. Her aggregate yield in butter in July was 79 lbs. From June 1st to October 7th, on green fodder without grain, 293 1-2 lbs, or an average of 15 92-100 lbs. per week for 18 3-7 weeks. The first week in July her milk made 18 lbs. of butter. Mr. C. says that the above mentioned product per week for 18 3-7 weeks was not an exception to the general product, and that her feed in winter was good hay, steamed roots and corn fodder, mixed with a small quantity of shorts. The Oakes Cow averaged more than 16 lbs. of butter for three months; but Lady Milton averaged nearly 16 lbs. for more than 4 1-2 months, on green feed without grain or milk food.

Her yield of butter for the year would undoubtedly (if any account had been kept) have gone up to 500 lbs.

I shall mention only one more of our modern cows. Jean Armour, an Ayrshire cow imported by Mr. Peters, of Southboro', gave from June 1st to Sept. 23d, 5,612 1-2 lbs., or an average of 41 3-16 lbs. of milk per day. Allowing 20 lbs. of milk for 1 lb. of butter, this would have made a trifle over 280 lbs. of butter for a period of not quite four months. During the second 10 days in June she gave 521 1-2 lbs. of milk, or 52 lbs a day. During the second 10 days in September she gave 462 lbs. of milk, or 46 lbs. per day. Her weight was 967 lbs. She was in good pasture after June 12th, and had three pints of corn-cob meal, and 3 pints bran, and late in the season green corn stalks once a day. I think we may safely estimate that Jean Armour's yield in butter would have been at least 500 lbs. for the year. During the period that the account of their yield was kept, Lady Milton was the equal if not the superior of the Oakes cow in butter. Sybil and Jean Armour were her superior as milkers, and all three were more profitable animals to keep.

SCHOLARSHIP.

At a meeting of the Trustees of the Society, Nov. 15th:

Voted, To continue the offer of Fifty Dollars for a Scholarship in the Massachusetts Agricultural College, open to any young man in Essex county who can pass the required examination.

DR. E. H. PAYSON, TREASURER, IN ACCT. WITH ESSEX AG. SOCIETY, CR.

1869.			1869.			
October.	To balance of former acct,	$829 54	October.	By amount of premiums and gratuities awarded by the Trustees,		$1183 50
	To receipts of Exhibition at Newburyport, pr Mr. Granger's account,	1361 44		By expense account, as follows:		
	To Bank Dividends, Oct.,	426 50		Expenses of Exhibition at Newburyport, fm Mr. Granger's ac.	1520 15	
Decem'r.	To State Bounty,	600 00		Other expenses of Exhibition,	102 93	
	To donation from Gen. Sutton, plowing prem.	50 00		Rent of Room,	25 00	
1870.	To New Members,	231 00		Secretary's acct,	151 07	
Febru'y.	To dividend First National Bank, Salem,	84 00		Printing,	487 17	2286 32
	To coupons 5-20 bonds,	17 92		Cash paid for 2 Scholarships,		100 00
	To coupons Essex Railroad,	19 95		By balance to new acct,		1215 68
	To donation from Gen. Sutton, scholarships,	100 00				
April.	To Bank Dividends, April,	426 50				
July.	To dividends 1st National Bank, Salem,	84 00				
	To coupons 5-20 bonds,	73 45				
	To coupons Essex Railroad,	22 70				
Sept'r.	To rent of Treadwell Farm,	250 00				
	To unclaimed premiums,	208 50				
		$4785 50				$4785 50

FUNDS BELONGING TO THE SOCIETY.

15 shares Warren National Bank,	$1595 40
8 shares National Exchange Bank, Salem,	800 00
14 shares First National Bank, Salem,	1402 66
12 shares Mercantile National Bank,	1226 50
23 shares Merchants National Bank,	1189 50
5 shares First National Bank, Danvers,	375 00
2 shares Salem National Bank,	200 00
15 shares South Danvers National Bank,	1471 25
42 shares Asiatic National Bank,	1281 25
To 10-40 bonds and premiums,	544 00
To 5-20 bonds and premiums,	1065 00
To Essex Railroad Bonds,	700 00
To cash on hand, as above,	1215 68
	$13,065 24

Amount of funds in 1869,	$12,680 10
Amount of funds now,	13,066 24
Showing a gain of	$386 14

E. E. EDWARD H. PAYSON, Treasurer.

Salem, October, 1870.

OFFICERS OF THE SOCIETY,

FOR 1870-71.

PRESIDENT.

WILLIAM SUTTON, of Peabody.

VICE PRESIDENTS.

GEORGE B. LORING, of Salem.
E. G. KELLEY, of Newburyport.
JOHN KEELEY, of Haverhill,
BENJAMIN P WARE, of Marblehead.

TREASURER.

EDWARD H. PAYSON, of Salem.

SECRETARY.

CHARLES P. PRESTON, of Danvers.

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JOHN W. PROCTOR, of Peabody.
ALLEN W. DODGE, of Hamilton.
JOSEPH HOW, of Methuen.

TRUSTEES.

John. J. Babson, Gloucester; John S. Ives, Salem;
Richard S. Bray, Newbury; James P. King, Peabody;
W. H. B. Currier, Salisbury; Thomas K. Leach, Topsfield;
William Chickering, Andover; E. K. Lee, Essex;
Aaron Dodge, Beverly; William B. Morgan, Wenham;
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Levi Emery, Lawrence; Sherman Nelson, Georgetown;
Alonzo B. Fellows, Ipswich; Warren Ordway, Bradford;
J. L. Farnham, N. Andover; Asahel H. Patch, Hamilton;
James Flint, Middleton; D. H. Stickney, Groveland;
J. J. H. Gregory, Marblehead; John Swinerton, Danvers;
Thos. P. Gentlee, Manchester; John L. Shorey, Lynn;
Eliph. Griffin, Newburyport; Aaron Sawyer, Amesbury;
Israel Herrick, Boxford; Albert Titcomb. Rowley;
Joseph S. Howe, Methuen; T. C. Thurlow, W. Newbury.

NEW MEMBERS—1870.

W. Burnham, Ipswich; W. A. Durant, Lawrence;
John Batchelder, Lynn; Alden C. Estes, Rockport;
Jos. Carlton, N. Andover; B. H. Farnham, N. Andover;
Hiram Canney, Newburyport; J. Frank Foster, N. Andover;
David Clark, Topsfield; Alfred R. Fiske, Wenham;
Ebenezer Cogswell, Ipswich; Bennett Griffin, Gloucester;
Sam'l P. Cummings, Danvers; Benjamin A. Gray, Salem;
Stephen Conelly, Beverly; George Haskell, Ipswich;
W. H. B. Currier, Salisbury; Daniel Horton, Newburyport;
Jona. Chapman, Georgetown; Alonzo F. Harvey, Gloucester;
Edwin T. Curtis, Groveland; Anthony Hatch, Saugus;
Wm. D. Chamberlain, Lynn; Nathan M. Hawkes, Lynn;
Wm. P. Davis, Gloucester; Joseph Hale, Rowley;
Richard T. Dodge, Ipswich; Paul M. Illsley, Newbury;
Moody S. Dole, Georgetown; W. T. Jaques, W. Newbury;

George James, Gloucester ; H. L. Phelps, N. Andover ;
Charles Kimball, Bradford ; T. B. Patten, Amesbury ;
Joseph F. Kinsman, Ipswich ; Charles L. Perkins, Newbury ;
Rufus Kimball, Lynn ; Chas. L. Palmer, Bradford ;
S. Leverett Knight, Danvers ; Charles O. Putnam, Danvers ;
Silas Little, Newbury ; Jasper Ray, Andover ;
William Lowe, Rockport ; William P. Rust, Gloucester ;
J. Arthur Lamson, Topsfield ; Chas. P. Savory, Groveland ;
Herbert E. Newhall, Saugus ; Robert J. Saunders, Salem ;
A. P. Noyes, Middleton ; Alvin Smith, Hamilton ;
William Nelson, Georgetown ; Alden Story, Ipswich ;
Parsons Ordway, Newburyport ; Volney C. Stow, Salem ;
Stephen Osgood, Georgetown ; George Tapley, Danvers ;
T. T. Payne, Marblehead ; Roland G. Usher, Lynn ;
Wm. W. Phelps, N. Andover ; Bowman Viles, Peabody ;
G. H. Plummer, Newbury ; Maynard Whittier, Ipswich ;
Amos Prince, Danvers ; Richard Ward, Topsfield ;
Moses Payson, Rowley ; C. W. Woods, Newbury ;
John P. Palmer, Swampscott ; David B. Wallace, Peabody ;
Adoniram Porter, Beverly ; J. R. Whittemore, Chicopee.

☞ Any citizen in the County may become a member by paying the sum of three dollars to increase the permanent funds of the Society, and he will receive a certificate of his membership from the Secretary. No fines or assessments are ever imposed. Members are entitled to the free use of the Library, and a copy of the Transactions each year. All ordained Ministers of the Gospel residing in the County, and editors of newspapers, published therein, are entitled to the privileges of the Library.

LIBRARY.

The LIBRARY is established at the Plummer Hall, Essex street, Salem, where Members can obtain books under the following

REGULATIONS:

1. Each member shall be entitled to take from the Library TWO VOLUMES, on signing a receipt for the same, and agreeing to be accountable therefor.

2. No member shall keep any book more than two weeks, after being notified (by the Librarian) that the same is wanted by another member.

3. All books belonging to the Library shall be returned on or before the 15th of November in each year; that the same may be examined and the condition of the Library reported to the Trustees.

4. Any member who shall neglect or refuse to conform to these Regulations, shall thereby forfeit the privilege of taking books from the Library.

List of Premiums, &c.

BULLS.

D. F. Appleton, Ipswich, for Kerry bull, 1st premium, diploma and $10 00

R. S. Rogers, Salem, for Jersey bull, 1st premium, diploma and 10 00

Francis Dane, Hamilton, " " " 2d " 5 00

D. S. Caldwell, Newbury, for Ayshire bull, 1st premium, diploma and 10 00

C. C. Adams, Newbury, for " " 2d " 5 00

MILCH COWS.

Henry G. Kimball, Bradford, for Grade Dutch cow, 1st premium, diploma and 15 00

HERD OF MILCH COWS.

Francis Dane, Hamilton, for herd of cows, 1st premium, diploma and 15 00

HEIFERS.

H. G. Kimball, Bradford, for three years old heifer, 1st premium, diploma and 10 00

Francis Dane, Hamilton, for three years old heifer, 2d premium, 8 00

Francis Dane, Hamilton, for three years old heifer, 3d premium, 5 00

Francis Dane, Hamilton, for 2 years old heifer. 1st premium, 8 00

T. K. Bartlett, Newburyport, for 2 years old heifer, 2d premium, 5 00
Francis Dane, Hamilton, for 2 years old heifer, 3d premium, 3 00
Francis Dane, Hamilton, for yearling heifer, 1st prem. 5 00
Sidney F. Newman, Newbury, for yearling heifer, 2d premium 3 00
Francis Dane, Hamilton, for calves, 1st premium 6 00

WORKING OXEN AND STEERS.

N. Little, jr., Newbury, for working oxen, 1st premium, diploma, and 12 00
John S. Preston, Danvers, for working oxen, 2d prem. 10 00
George Hodgdon, Ipswich, for working oxen, 3d prem. 8 00

STEERS.

William Foster, North Andover, for three years old steers, 2d premium 5 00
Hiram Young, Newbury, for yearling steers, 1st prem. 8 00

STALLIONS.

John Gardner, Haverhill, for 4 years old stallion, 1st premium, diploma and 15 00
Charles O. Putnam, Danvers, for 4 years old stallion, 2d premium, 10 00
N. Little, jr., Newbury, for 4 years old stallion, 3d premium, 8 00
Francis Dane, Hamilton, for 3 years old stallion, 1st premium, 8 00
George B. Martin, Danvers, for 3 years old stallion, 2d premium, 5 00

BREEDING MARES.

Francis Dane, Hamilton, for breeding mare, 1st premium, diploma and 15 00
S. C. Morse, Haverhill, for breeding mare, 2d prem. 10 00
E. G. Elliott, Georgetown, for breeding mare, 3d " 8 00

FAMILY HORSES.

R. S. Rogers, Salem, for family horse, 1st premium, diploma and 15 00
Orin Putnam, Danvers, for family horse, 2d premium, 10 00
John Swinerton, Danvers, for family horse, 3d " 8 00

FARM AND DRAFT HORSES.

Edwin C. Little, Newbury, farm and draft horse, 1st premium, diploma and 12 00
B. H. Farnham, North Andover, for farm and draft horse, 2d premium, 10 00
David Knowlton, Essex, for farm and draft ho.se, 3d premium, 8 00
Wm. J. Cheever, North Andover, for farm and draft horse, 4th premium, 5 00

COLTS.

Richard S. Rogers, Salem, for 4 years old colt, 1st premium, diploma and 10 00
Bennett Griffin, Gloucester, for 4 years old colt, 2d premium, 5 00
Hiram T. Balch, Groveland, for 3 years old colt, 1st premium, 6 00
Francis Dane, Hamilton, for 3 years old colt, 2d prem. 4 00
George B, Martin, Danvers, for 2 years old colt, 1st premium, 5 00
Francis Dane, Hamilton, for 2 years old colt, 2d premium, 3 00
John Gardner, Haverhill, for yearling colt, 1st prem. 4 00
Geo. B. Martin, Danvers, for yearling colt, 2d " 3 00

SWINE.

Henry Saltonstall, Peabody, for boar, 1st premium, diploma and 8 00
George Ober, Beverly for boar, 2d premium, 5 00
William Foster, North Andover, for breeding sow, 1st premium, diploma and 8 00

Francis Dane, Hamilton, for breeding sow, 2d prem. 5 00
Francis Dane, Hamilton, for weaned pigs, 1st " 5 00

SHEEP.

Francis Dane, Hamilton, for flock of Cotswold, 1st premium, diploma and 8 00
Benjamin D. Appleton, Ipswich, for flock of Grade South Down, 2d premium, 5 00
D. F. Appleton, Ipswich, for Cotswold ram, 1st premium, diploma and 6 00
D. F. Appleton, Ipswich, for ram lambs, 1st premium 3 00

PLOUGHING—DOUBLE TEAMS.

Jaques & Bray, Newbury, with Eagle 20 plough, 1st premium, diploma and 12 00
Joseph Horton, Ipswich, with Eag. 20 plough, 2d prem. 10 00
Nathaniel Little, jr., Newbury, with Eagle 20 plough, 3d premium, 9 00
Treadwell & Hodgdon, Ipswich, with Hussey plough, 4th premium, 8 00

PLOUGHING—SINGLE TEAMS.

R. T. Jaques, Newbury, 1st premium, diploma and 7 00

PLOUGHING WITH HORSES.

Moody S. Dole, Georgetown, with Doe plough, 1st premium, diploma and 10 00

PLOUGHING WITH SWIVEL PLOUGH.

William Foster, North Andover, Holbrook plough, 1st premium, diploma and 10 00
John S. Preston, Danvers, Whittemore plough, 2d premium, 10 00

PLOUGHING BY BOYS.

Charles Fish, Danvers, aged 18, with Doe plough, 1st premium, 25 00

AGRICULTURAL IMPLEMENTS.

Whittemore, Belcher & Co., Boston, best collection of implements, 1st premium, diploma 15 00
E. A. Archibald, Methuen, farm wagon, 1st premium, 5 00
Amos Hazeltine, Haverhill, centrifugal power, sawing machine, gratuity, 1 00
Amos Hazeltine, Haverhill, c power threshing machine, gratuity, 3 00
Amos Hazeltine, Haverhill, c power cider mill, gratuity 1 00
E. K. Lee, Essex, stump puller and rock lifter, " 3 00
Aaron Dodge, Beverly, pulverising harrow, " 3 00

CARRIAGES.

G. W. Symonds, Lynnfield, express wagon, 1st prem. 5 00
Wm. Noyes, Newburyport, express wagon, 2d " 3 00
Erastus Clark, jr., Ipswich, horse cart, 1st " 2 00
E. A. Archibald, Methuen, iron hub wheels, 1st premium, diploma.

BUTTER.

Amos F. Hobbs, Wenham, butter, 1st premium, diploma and 10 00
Mrs. W. A. Dane, Hamilton, do. 2d premium, 8 00
Mrs. Oliver Patch, " do. 3d " 6 00
Asa Wade, Ipswich, do. 4th " 4 00

CHEESE.

Lot No. 3, 1st premium, 8 00
Lot No. 2, 2d premium, 5 00

GRAIN CROPS.

J. C. & R. Jaques, W. Newbury, corn crop, 1st premium, diploma and 10 00

ROOT CROPS.

Joseph Illsley, Newbury, onions, 1st premium, diploma and 8 00

Thomas Sanders, Salem, ruta bagas, 1st premium, diploma and	8 00
Wm. R. Putnam, Danvers, cabbages, 1st premium, diploma, and	8 00

UNDERDRAINING LAND.

D. F. Appleton, Ipswich, underdraining land, 1st premium, diploma and	15 00

ESSAYS.

J. D. W. French, North Andover, 3d premium,	8 00

REPORTS OF COMMITTEES.

J. J. H. Gregory, Marblehead, 1st premium, diploma, and	10 00
Joseph How, of Methuen, 2d premium,	8 00
J. L. Hubbard, Peabody, 3d premium,	6 00

Awarded by Committee on Poultry,	$32 00
" " " " Vegetables and Gar. Seeds,	71 50
" " " " Fruit,	158 00
" " " " Flowers,	24 00
" " " " Counterpanes, Rugs, etc.,	29 00
" " " " Fancy Articles,	43 50
" " " " General Merchandise,	11 50
" " " " Bread and Honey,	18 00
" " " " Articles manufactured from Leather,	7 00
	$1,062 50

RECAPITULATION.

FARMS.

Amount awarded to	Underdraining Lands,	$15 00	
" "	Ploughing,	103 00	
" "	Farm Implements and Carriages,	41 00	
			$159 00

FARM STOCK.

Amount awarded to	Bulls,	40 00	
" "	Milch Cows,	30 00	
" "	Heifers,	53 00	
" "	Working Oxen,	30 00	
" "	Steers,	9 00	
" "	Stallions,	46 00	
" "	Breeding Mares,	33 00	
" "	Family Horses,	33 00	
" "	Farm and Draft Horses,	35 00	
" "	Colts,	40 00	
" "	Sheep,	22 00	
" "	Swine,	31 00	
" "	Poultry,	32 00	
			434 00

FARM PRODUCE.

Amount awarded to	Vegetables,	71 50	
" "	Fruits,	158 00	
" "	Flowers,	24 00	
" "	Dairy,	41 00	
" "	Bread, etc.,	18 00	
" "	Grain crops,	10 00	
" "	Root Crops,	24 00	
" "	All other objects,	123 00	
			$469 50
	Total,		$1,062 50

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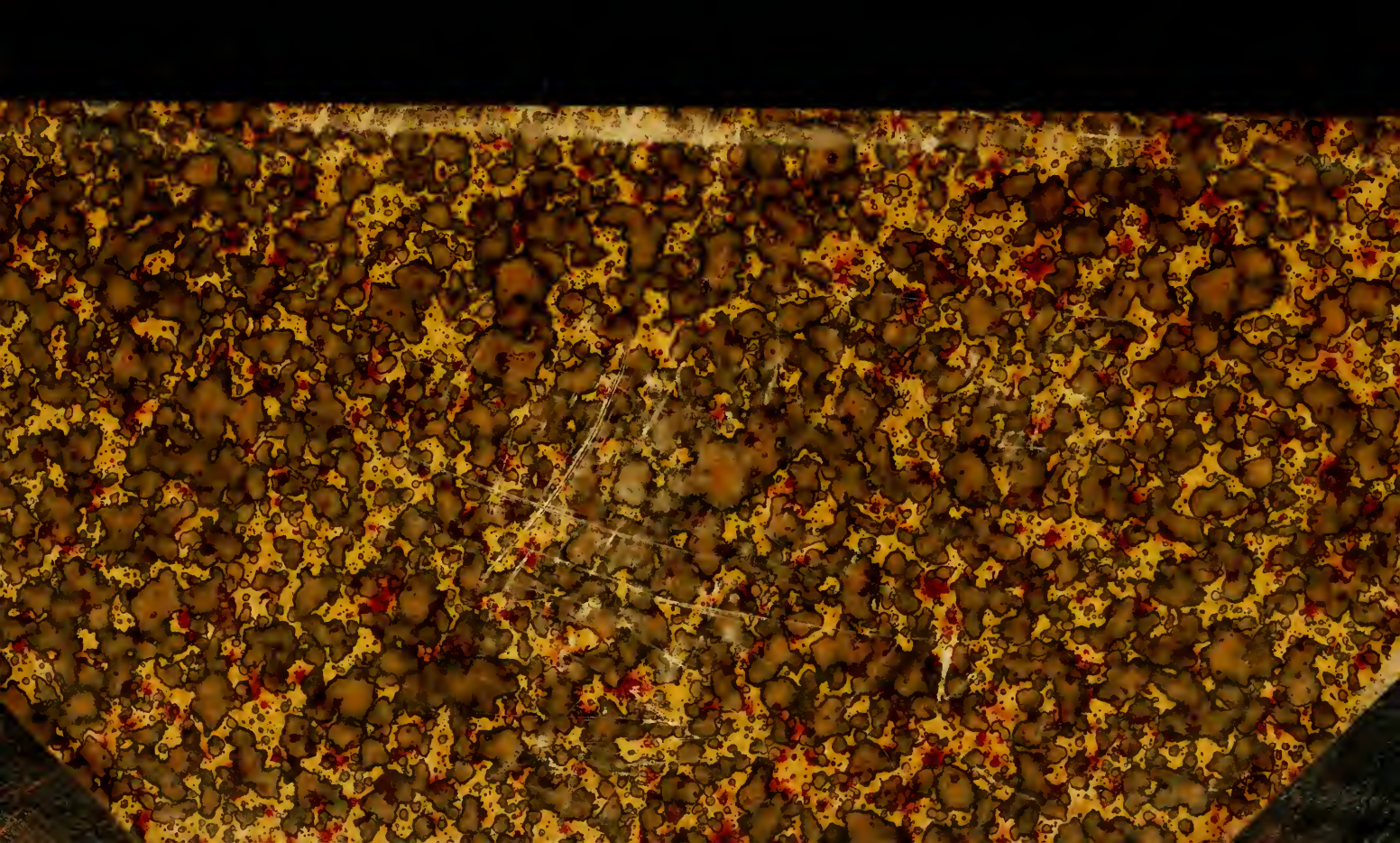
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